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# The OIL WEEKLY

OIL and GAS ENGINEERING

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VOLUME 83 OCTOBER 5, 1936 NUMBER 4

*To stand*

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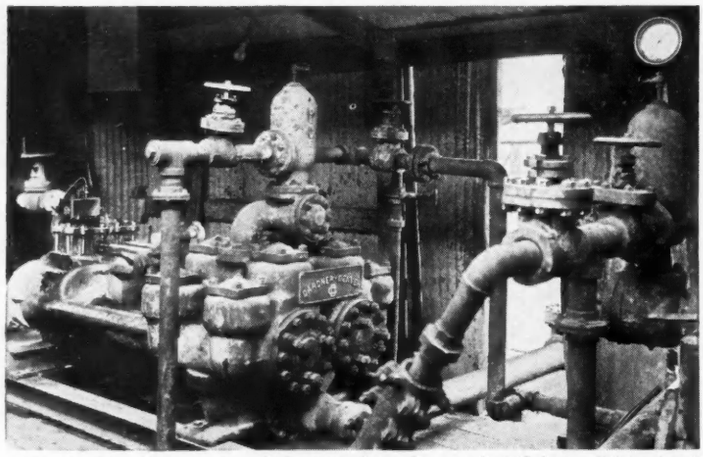

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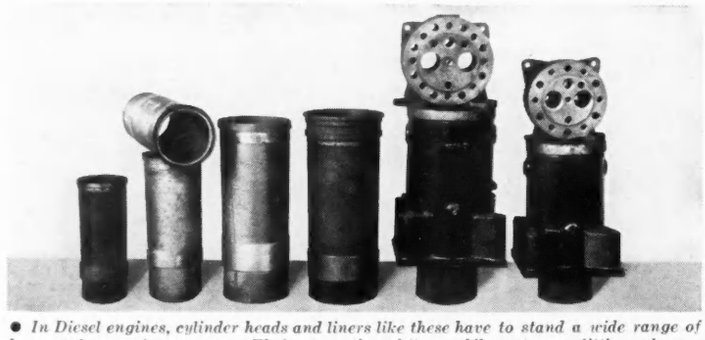

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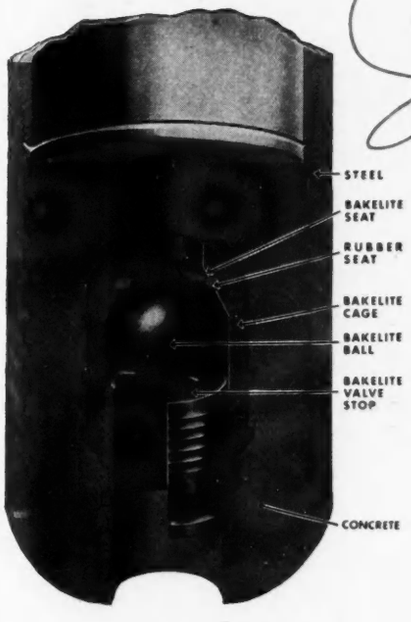


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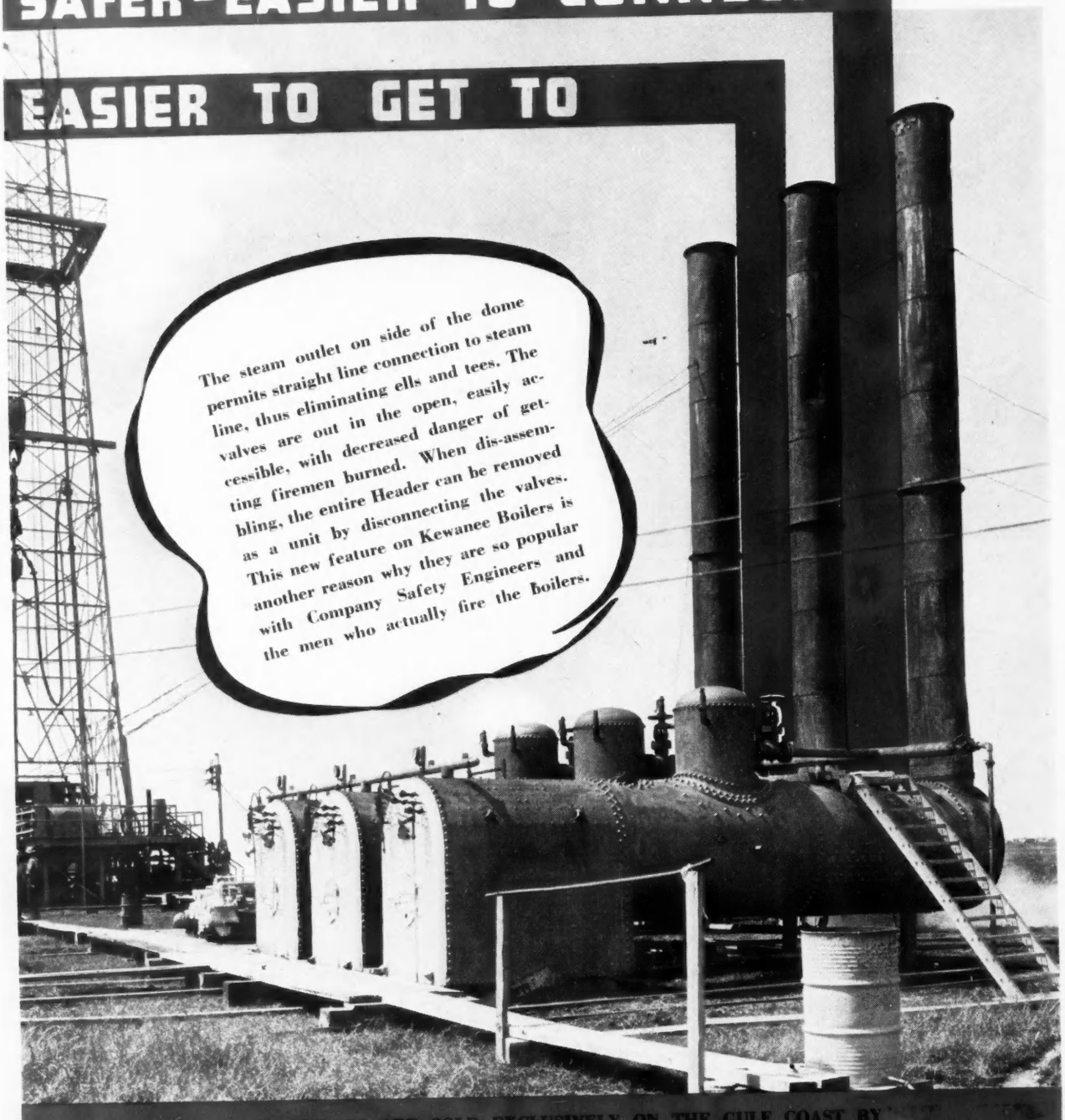
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# THE OIL WEEKLY

FOR OIL AND GAS PRODUCERS
AND PIPE LINE MEN

ENGINEERING NEWS STATISTICS

WARREN L. BAKER, Editor


# . . . this Week

THE Texas Railroad Commission disregarded the U. S. Bureau of Mines recommendations in fixing the state's October crude production allowable at 1,179,948 barrels, which is an increase of 54,274 barrels over its own order of September 1 and 73,048 barrels higher than the Bureau recommended. New completions during the month make up most of the increase, and only a few fields received true enlargements. In establishing the higher output, when the Bureau figured consumption would decline, the commission chairman hurled charges that the state was being discriminated against when other areas were permitted increases while Texas was expected to absorb 80 percent of the total reduction recommended in the entire United States. **Page 8.**

LOUISIANA'S production allowable for October was raised 1000 barrels over September to 236,200 barrels daily, all the increase going to the Basile field in the Gulf Coast. Rodessa's allocation remained at 60,000 barrels daily, and as a result it was necessary to cut the per well allowable from 240 to 225 barrels. **Page 8.**

CALIFORNIA did not change its October crude quota, leaving it at 544,000 barrels daily, or 8700 barrels above the Bureau of Mines recommended figure. California has been consistently overproducing its quota, and this is expected to continue during October, although attempts are being made to settle this problem satisfactorily. **Page 8.**

THE 55,000 barrels of crude purchased by East Texas Refining Company in the Rodessa, Louisiana field, and made famous because of legal controversies over its right to move through Texas, may be shipped, according to a ruling by a court of civil appeals. **Page 10.**

FIFTY-THREE pipe line companies subject to control of the Interstate Commerce Commission transported considerable more oil during 1935 than during 1934, according to the annual report of the commission. The companies moved 772,995,200 barrels of crude oil originating on their own lines, 281,970,041 barrels of oil received from connecting lines, 43,593,203 barrels of refined products originating from their own lines and 10,282,045 barrels of refined products received from connecting systems. Despite from connecting systems. **Page 12.**

## The Oil Man's Calendar

| | |
|---|---|
| OCT. 2 | **Interstate Compact Commission Meeting, Oklahoma City, Oklahoma.** |
| 5– 9 | **National Safety Congress Petroleum Section, Atlantic City, New Jersey.** |
| 8– 9 | **American Institute of Mining and Metallurgical Engineers, Petroleum Division, Fort Worth, Texas.** |
| 8– 9 | **National Road Oil and Asphalt Congress, Tulsa, Oklahoma.** |
| 19–23 | **American Institute of Mining and Metallurgical Engineers, Cleveland, Ohio.** |
| 25–30 | **American Gas Association, Atlantic City, New Jersey.** |
| | **American Association of Petroleum Geologists, Pacific Coast Section, Los Angeles, California.** |
| NOV. 7–16 | **American Institute of Mining and Metallurgical Engineers, Western Meeting, Mexico City, Mexico.** |
| 9–12 | **American Petroleum Institute, 17th Annual Meeting, Chicago, Illinois.** |
| 20 | **Mid-Continent Oil and Gas Association, Kansas-Oklahoma Division, Tulsa, Oklahoma.** |
| NOV. 30–DEC. 1 | **Independent Petroleum Association of America, Biltmore Hotel, Oklahoma City, Oklahoma.** |
| NOV. 30–DEC. 4 | **American Society of Mechanical Engineers, Annual Meeting, Society's Building, New York.** |
| | **Mid-Continent Oil and Gas Association, Texas Division, Annual Meeting, Houston, Texas.** |

IT is very probable that the oil industry of Texas will be called upon to stand part of the expenses of old age pensions in the state. The legislature now is in session, considering ways and means of raising funds for this purpose, and oil, gas and sulphur have been the most prominently mentioned sources of new taxes. A series of bills have been introduced, most of which provide for some increase in the gross production tax on crude. **Page 10.**

THE second fall meeting of the Mid-Continent section of the Petroleum Division of the American Institute of Mining and Metallurgical Engineers will meet in Fort Worth, Texas, this week, October 8 and 9. Some very interesting papers have been prepared on pertinent operating problems and are to be presented by able speakers. **Page 10.**

THE known future supply of California crude is estimated at 2,716,000,000 barrels by F. E. Minshall in addressing the Pacific Coast Section of the Petroleum Division of the American Institute of Mining and Metallurgical Engineers. It is interesting to note that withdrawals from proved reserves have been greater than the amount added by the discovery of new fields during the past seven years. He concludes by stating that the state's reserves must be increased approximately 2,000,000 barrels during the next five years to keep California supply and demand in balance. **Page 37.**

A NEW innovation in field operations that promises to receive considerable attention and perhaps widespread adoption is the stabilization of the crude in the field to reduce losses during transportation. Continental Oil Company has erected a field stabilization plant at Tepetate, Louisiana, and it is proving successful in operation. The company also is performing some other interesting field operations at Tepetate, including the metering of extremely high-pressure oil and use of unique completion practices. **Page 19.**

# *Texas Output Hiked*

## BUREAU CHARGED WITH BEING UNFAIR AND IS DISREGARDED

AUSTIN.

THE Texas Railroad Commission last week issued its October proration order fixing a total allowable of 1,179,948 barrels per day.

The new allowable is 54,274 barrels higher than the allowance fixed in the order which became effective on September 1. It is 73,048 barrels higher than the consumer demand for Texas during the month of October, as calculated by the United States Bureau of Mines.

The order provided true increases for only a few fields in the state. Van was raised 5000 barrels to supply additional oil for Pure Oil Company's refinery at Smith Bluff. The Hastings field was raised 2799 barrels to supply a demand from Stanolind Crude Oil Purchasing Company of 2500 barrels per day.

The remainder of the fields were given the same per well allowance they were allowed during the month of September, with additional allowances to new wells completed during the past month.

### Charge Bureau Discrimination

Commission Chairman Ernest O. Thompson, at the time the order was released, declared that the Railroad Commission had projected September allowables into October in an effort to prevent the loss of the Texas crude market to competing oil producing states. He pointed out that the Bureau of Mines had recommended a reduction of 17,000 barrels daily in the Texas allowables, which was more than 80 percent of the total reduction recommended for the entire United States.

"This seems questionable to me," Thompson declared, "since Texas produces 43 percent of the oil. I do not understand why increases of 3000 barrels should be recommended for Louisiana and New Mexico, whose oil comes in direct competition with Texas crude and may be supplied from many Texas fields."

Thompson declared that all oil now being produced in Texas was going to market and was not increasing above-ground stocks in the state. To support this statement he pointed out that commission has maintained a careful check on stocks of oil on hand, and from this information has determined that there has been no fluctuation during the past eight or ten months. Neither does Thompson believe that the additional production allowed would affect the national picture.

"There is now in storage in the United States, according to the best figures available, 294,000,000 barrels of crude oil. Of this amount 9,000,000 barrels is always in transit in pipe lines and is not working stock in the true sense of the word. Investigation has shown that 15 percent of the remaining 285,000,000 barrels is worthless so far as its value as a gasoline stock is concerned. If, however, we assume that only 10 percent of it is out of the picture, there remains in storage 257,000,000 barrels of oil available for immediate consumption."

"The consumption now averages more than 3,000,000 barrels daily, and thus we have on hand a suply to last less than 90 days. The industry has always maintained 90-day stocks, and for that reason I see no reason for reducing production until this shortage has been made up," he said.

Thompson explained the increase of 5000 barrels which was ordered for the Van field by reading a telegram from Pure Oil Company which recited that they would buy 5000 barrels daily from Oklahoma and Michigan beginning on October 1 unless the oil became available from the Van field.

It was clear from the commissioner's statements that he was in effect testing the figures of the Bureau of Mines and the ability of the United States market to absorb the additional crude. He pointed out that the Oil States Compact Committee would meet at Oklahoma City on Friday, October 2, only one day after the new order became effective, and that the

## LOUISIANA INCREASE

### Rodessa wells cut; state total up 1000 barrels

SHREVEPORT.

ALTHOUGH the total for the Rodessa field's allowable for October was left at 60,000 barrels, the same as for September in Conservation Commissioner William G. Rankin's allowable order for the coming month, the per well allowable at Rodessa, Louisiana side, was reduced from 240 barrels daily in September to 225 barrels in October.

The rest of North Louisiana was given 20,000 barrels daily, the same figure which has prevailed since proration was resorted to in this state. There is no individual allowable by fields.

The October proration order gave the entire state of Louisiana 236,200 barrels, an increase of 1,000 barrels over September. All of the increase was given to the Basile field, South Louisiana, whose allowable was raised from 4750 to 5750 barrels South Louisiana's complete allowable for October is 156,200 barrels.

## QUOTA UNCHANGED

### California allowable is above Bureau quota

LOS ANGELES.

CALIFORNIA'S October crude quota remains unchanged at 544,000 barrels daily, or 8700 barrels over the state's requirements as suggested by the United States Bureau of Mines.

While the Central Committee of California Oil Producers on Tuesday approved the allocation committee's recommendation that the October quota remain unchanged. L. L. Aubert reminded the operators that as the winter months advanced this practice of a uniform average quota would be increasingly difficult to maintain unless those areas which show a consistent excess production swing into line. The September output is expected to show a material decrease over August, but the balance of supply over demand will show little change.

One of the most important of the areas is Lake View in the Maricopa district where the plan to shut in 10,000 barrels daily the last 10 days of each month was partially disrupted during September. Chairman Lawrence Vander Leck, however, reported readjustments were under way which, it was hoped, would make the program again effective in October. This 100,000-barrel shut-in for the Lake View area has an important bearing on the success of the state's curtailment efforts.

Contrasted to this problem was the report from Coffee Canyon and Edison where former production problems have been satisfactorily settled.

### Texas October Allowable by Districts

| DISTRICT | Allowable Effective Sept. 1 | Allowable As of Sept. 26* | Allowable Per Order Effective Oct. 1 | Increase Over Sept. 1 |
|---|---|---|---|---|
| East Texas | 434,000 | 436,281 | 436,700 | 2,700 |
| Panhandle | 58,490 | 59,485 | 59,485 | 995 |
| Moore County | 1,500 | 1,500 | 1,500 | ..... |
| Osborne Area | 700 | 725 | 725 | 25 |
| North Texas | 58,380 | 60,376 | 58,380 | ..... |
| Anderson-Kerr | (Included above) | (Included above) | 3,600 | 3,600 |
| Foard County | 400 | 400 | 400 | ..... |
| West Central | 57,744 | 57,649 | 56,397 | 1,653 |
| West Texas | 140,920 | 150,133 | 151,054 | 10,134 |
| East Central | 46,995 | 50,658 | 55,405 | 8,410 |
| Rodessa | 7,250 | 12,480 | 11,700 | 4,450 |
| Southwest Texas | 155,633 | 170,445 | 169,529 | 13,896 |
| Gulf Coast | 166,662 | 173,481 | 173,073 | 8,411 |
| Totals | 1,125,674 | 1,173,613 | 1,179,948 | 54,274 |
| U. S. Bureau Recommendation | 1,123,900 | ..... | 1,106,900 | ..... |

*New completions during the month caused increase over allowable as of September 1.

Texas allowable would probably furnish an interesting discussion for that hearing. If it were found that the Texas order was out of line, adjustments could be made quickly without any danger to the national or local situation. From this standpoint the increased allowable may be regarded as a trial balloon, but there is no question about the determination of Thompson and his colleagues to hold for Texas the largest place in the oil market they can obtain.

New district allowables showed an increase for every area except Moore County in the Panhandle, and Foard County in the North Texas area. Southwest Texas, with a gain of 13,896 barrels, obtained the largest increase. West Texas was raised 10,134 barrels and the Gulf Coast was raised 8411 barrels. Increases by districts are shown in an accompanying table.

## AIME MEETING

### Pacific Coast Engineers Have Good Sessions

LOS ANGELES.

THE Pacific Coast meeting of the Petroleum Division of the American Institute of Mining and Metallurgical Engineers held in Los Angeles October 1 and 2 was well attended and honored by the presence of John M. Lovejoy, Institute president from New York, who was the feature speaker at the dinner meeting Thursday night. He discussed the lack of conservation legislation in California, the large oil and gas ratio, etc., in the state. He thought it might be proper and timely to make a study of the water encroachment on the older fields. He called especial attention to the study that had been made of the situation at Sugarland in Texas and a study now being made of conditions in the Bosco field in Louisiana.

He recounted history of the plan in effect in Kettleman Hills in giving insight into the negotiations preceding the adoption of the present plan now in effect.

C. M. Nickerson, petroleum engineer, Navy Department, discussed the cooperative plan for the Buena Vista area, where the Navy Department is especially interested. Hal Marsh presided at the night session.

At the Friday morning session, several papers were read, chief of which was Joseph Jensen's review of drilling developments in California in recent months. Butane engine drilling in the state was discussed by L. R. Smith and the echometer was the subject of a paper read by C. P. Walker. R. R. Boyd of Richfield Oil Company read a paper on the influence of production practice on gravity of oil. This paper was of special interest since little had been published on this subject in the past.

The two-day session closed Friday night following a dinner when newly discovered fields were discussed by William D. Kleinpell, and future demand for California products were discussed in a paper by Allan H. Hand of Union Oil Company. The future supply of oil in California was the subject of a paper by F. E. Minshall of Continental Oil Company.

# *Seek Higher Output*

## COMPACT STATES WANT BIGGER BUREAU OF MINES ALLOWABLES

OKLAHOMA CITY.

THROUGH the Interstate Oil Compact Commission the oil industry October 2 began feeling its way toward a higher domestic output. No action of that sort came from its deliberations, but expressions by those outside the compact membership indicated that the industry is now in position to accept more crude oil daily without any storage burden.

Ernest O. Thompson, chairman of the Texas Railroad Commission and today elected chairman of the compact commission, named a committee to go to Washington October 10 to meet with officials of the United States Bureau of Mines to study methods used by the federal agency in determining domestic demand. Thompson will be in Washington, and he left it open for the compact member of each state to name a representative on this committee.

That the industry can accept higher production was brought before the compact group by Charles F. Roeser, president of the Independent Petroleum Association of America, who spoke at the invitation of the retiring compact chairman, Governor E. W. Marland of Oklahoma. After giving the compact credit for bringing a sense of security to the independent oil producer, Roeser said, "You should inquire into the matter of an economic level for domestic storage. In my opinion we have about reached that level. If so we can stand an additional 70,000 barrels daily of domestic production, something the producers of the United States will appreciate."

That was as close as the meeting came to considering the question of domestic production. There had been intimations that a clash was in prospect between commission members because of the increase authorized in Texas by its railroad commission. The meeting, however, started with a reading of its by-laws, which set out that the purpose of the Interstate Oil Compact Commission is consideration of methods of producing oil without physical waste.

E. O. THOMPSON

Outside of the meeting, however, compact officials said that the Texas situation was not alarming. They intimated that it would be corrected in a satisfactory manner.

This meeting had as one object the invitation to non-compacting oil producing states to send representatives. Only three came, J. R. Pemberton from California, Earl D. Wallace, from Kentuck and Pierre LaFaleche from Wyoming. All compacting states were represented except Colorado.

A resolution was passed to effect continuation of the compact commission. The next meeting will be held in Oklahoma City December 1, when drafts of resolutions will be drawn for presentation to the present members to have state legislatures extend the life of the memberships, and plans will be made then to seek extension of the compact from Congress. Unless extended the oil compact will expire in September of 1937.

As chairman of the coordination committee Earnest O. Thompson made a report on the successful control of the Rodessa field. He said the oil-gas ratio of that field had been reduced to 12,500 cubic feet per barrel of oil, whereas in the past some wells there have produced as much as 100,000 cubic feet of gas per barrel. The output per well at Rodessa has been reduced to 225 barrels daily in both Louisiana and Texas.

The office of first vice chairman went to New Mexico, N. H. Dow, governor. Second vice chairman is the representative from Illinois, now represented by William Bell. Art L. Walker, Oklahoma City, will retain the position of secretary.

W. R. Boyd, executive vice president of the American Petroleum Institute, predicted growth of the Interstate Oil Compact Commission until each oil producing state is a member. Wirt Franklin, former president of the Independent Petroleum Association, urged the compact body to seek extension of the Connally Act and a tariff law to restrict imports to 4½ percent of domestic production.

Members and visitors were guests of Governor Marland at lunch following the meeting. Governor Marland made something of a farewell speech as chairman at this time. He said the Interstate Oil Compact Commission had proved itself worthy because it had accepted the question of conservation on a sound basis.

# More Texas Tax

## OIL MAY HELP DEFRAY OLD AGE PENSION EXPENSE

AUSTIN

THE Texas legislature, convened in special session last week, was faced with the problem of raising $12,000,000 additional revenue for defraying costs of the Old Age Pension System.

In a lengthy message, Governor James V. Allred outlined the needs of the Pension System, and emphasized the necessity for raising the tax from those industries most able to bear the burden.

He pointed to natural resources and especially oil, gas and sulphur as the sources from which the additional income could most likely be derived.

### Several Bills Introduced

Members of the legislature took their cue from the Governor and a series of bills were introduced, most of which provided for some increase in the gross production tax on crude oil. Some of these bills provided for a tax of as much as 10 cents per barrel, but more conservative measures presented carried increases ranging from one-fourth of one cent to one cent per barrel.

Several of the bills provided for gross receipts taxes on the oil and gas pipe lines. Rates varied from one-half to one and one-half percent of the gross income.

The House Revenue and Taxation Committee will begin hearings on Monday night, October 5, on bills introduced in proposing increases in taxes. Monday night the committee will hear arguments on tax increases proposed on crude oil and oil and gas pipe lines. Tuesday night the sulphur tax will be the principal subject discussed. Wednesday night the commitee will discuss the proposed tax on carbon black.

It was still far too early to predict the outcome of these measures. Members of the house have heard Pension Board officials discuss the need for additional funds and have had opportunity to determine the amount of money required.

Because 75 members of the house are serving their last term, having been replaced in the past elections, their probable actions are more unpredictable than ever.

Another problem which confronts legislators is disposition of the program to provide for unemployment compensation in Texas.

A comprehensive bill was introduced by Representative George Davisson of Eastland and unanimously approved by the House Labor Committee.

The bill has been approved by Washington and sets up a state commission of three members who would administer the act. Provision is made for "contributions" from each employer in Texas who has eight or more employees.

The rates are as follows: .9 of one percent on 1936 payrolls, 1.1½ percent on 1937 payrolls, and 2.7 percent on payrolls for 1938, 1939 and 1940.

After 1940, provision is made for adjustment in the rate of contribution by employers who have low labor turnover, and whose employees consequently receive less benefits from the unemployment insurance pool. All funds collected, however, are to be pooled for the benefit of all employees.

Benefits range from $5 to $15 per week in proportion to the income received by the beneficiary during the course of his employment.

The measure is highly complicated and has been studied for several weeks by a special committee appointed by Governor James V. Allred. Unless Texas has this or some similar law in effect by January 1, 1937, those payments which the Federal government will collect from Texas employers will never become available as benefit payments to Texas employees. If the Davisson bill or some similar measure is enacted, then it will be possible to divert to the benefit of Texas employees as much as 90 percent of the revenue paid by Texas employers to the Federal government. The remaining 10 percent is held by the government for administrative purposes.

It should be noted that all contributions provided for in the Davisson bill would all be used for benefit payments since the 10 percent withheld by the Federal government defrays costs of administering both State and Federal acts.

## MAY MOVE OIL

### Court permits moving of 'famous' Rodessa crude

AUSTIN

EAST Texas Refining Company will be permitted to move 55,000 barrels of crude oil purchased in Louisiana, according to an opinion handed down last week by the third Court of Civil Appeals.

The court pointed out that the Railroad Commission had declined to act on the application for a tender within 20 days after such application was filed. This court has held that the commission must act on such application within 20 days.

When suit was brought in the lower court, the commission contended that it should not approve the tender for the oil becauses a judgment of a Federal Court had held the oil to be contraband. The Appellate Court, however, following the ruling of the Trial Court, pointed out that the Federal Court judgment was not a final judgment and was therefore inadmissible.

"We do not understand the commission to contend appellee has violated any of the conservation laws of Texas . . . The only justification for its failure to act was that the judgment of the federal court was an adjudication that the oil was illegal. Appellee introduced a certificate from the Commissioner of Conservation of Louisiana stating the oil was produced legally. It is not controverted that appellee purchased the oil in good faith, relying upon this certificate.

"We have heretofore held that failure of the commission to act upon a tender application within 20 days constitutes unreasonable and arbitrary action. This failure does not in itself give the applicant a right to a tender for unlawful oil, but does place the burden on the commission to justify its conduct by showing the oil is illegal or not entitled to a tender. The only proof tendered was a certified copy of the federal court decree . . . The trial court certifies that it was made known to the court that an appeal would be taken from the federal court judgment."

## A. I. M. E. MEETING

### Engineers meet at Fort Worth this week

FORT WORTH.

THE second fall meeting of the Petroleum Division, American Institute of Mining and Metallurgical Engineers, will be held October 8 and 9, at the Blackstone Hotel, Fort Worth, Texas. Many prominent engineers and geologists are expected to attend this interesting two-day session which offers an unusual opportunity for study and discussion of technical developments and problems of the oil industry.

S. M. Greenidge of Texas Pacific Coal and Oil Company, Fort Worth, chairman of the general committee for the meeting, states that the program includes many highly interesting and instructive technical papers, prepared by recognized authorities, which should encourage a large attendance. He also cited an opportunity for delegates to visit the Fort Worth Frontier Centennial and its famous Casa Manana open-air musical extravaganza and the Texas Centennial Exposition at Dallas, only an hour from Fort Worth. The annual banquet, according to the program, will be held Friday evening, at which John M. Lovejoy, president of the Institute, will be the principal speaker.

### Technical Program

The technical program for Thursday, October 8, includes papers on Heaving Shale, Mud Fluids, Pressure Control, Control of Water, Bottom Hole Pressure, Productivity Indexes, Experiments on Radial Flow of Fluids Through Oil Sands, Permeability of Sands. Friday's program follows with papers on Diminishing Allowables per well, Acreage and Potential Factors, Well Spacing, Ultimate Gas Recovery Per Acre, Estimation of Reserves, and round table discussions on engineering education, co-operative education for the oil industry, employment of young engineers.

Speakers include Paul Weaver, Gulf Oil Corporation; W. V. Vietti, The Texas Company; J. J. Zorichak, Stanolind Oil & Gas Company; M. L. Haider, Carter Oil Company; F. B. Plummer, University of Texas; Prof. L. C. Uren, University of California; John R. Suman, Humble Oil & Refining Company; Eugene A. Stephenson, Missouri School of Mines; R. L. Huntington, University of Oklahoma, and others prominent in the petroleum industry.

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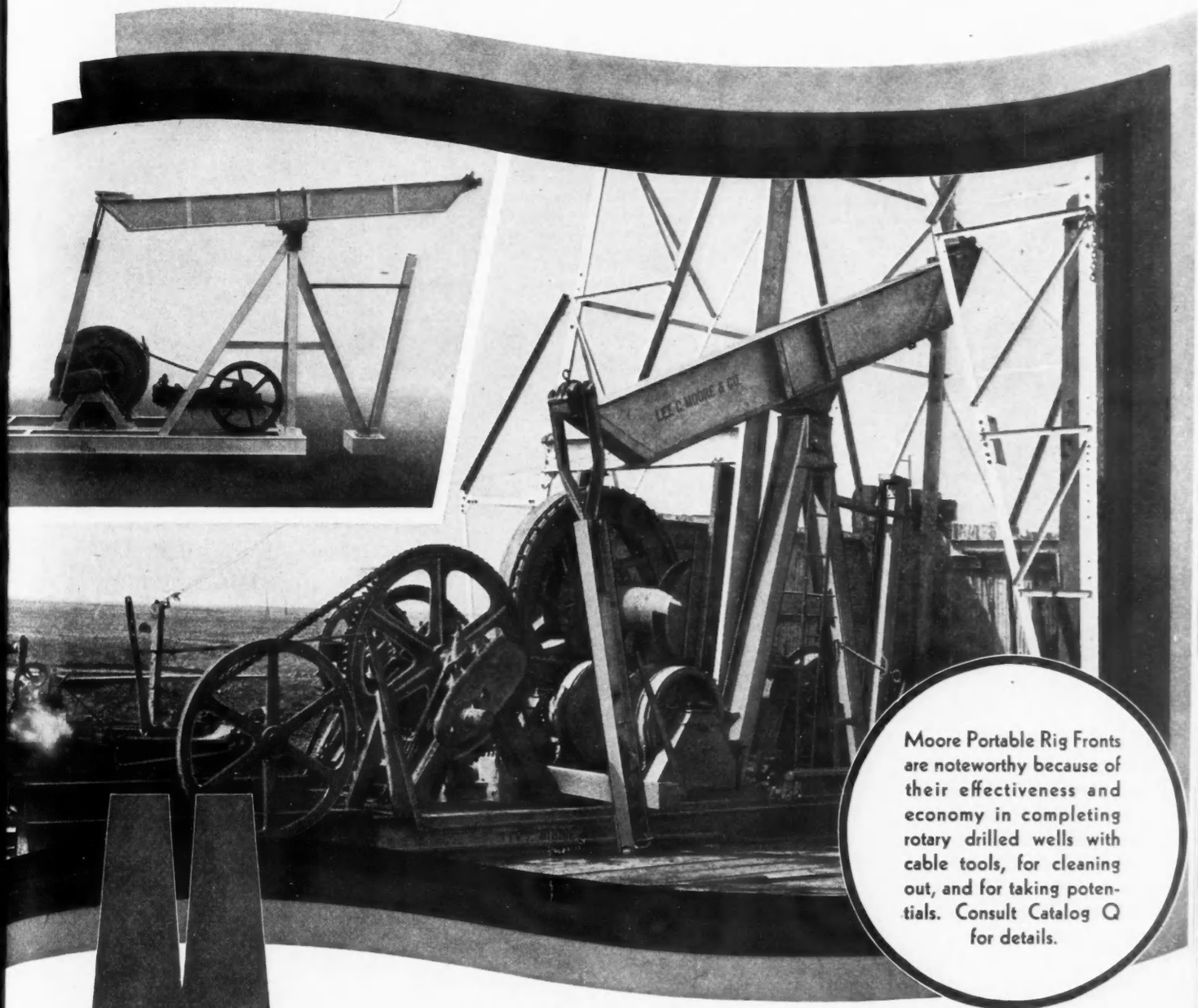


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# *To Loop Line*

## GULF OKLAHOMA-INDIANA SYSTEM TO BE ENLARGED

**Tulsa.**—To facilitate the movement of crude between the Mid-Continent field and its eastern refineries, Gulf Oil Corporation, Tulsa, will begin work about October 15 on 13 loops in the present 10-inch line of the company extending from Jenks, Oklahoma, to Dublin, Indiana, a distance of 635 miles. Loops varying in length from 11.9 to 26.9 miles each will be laid between 12 stations on the old line, and will also be constructed of 10-inch pipe in 40-foot sections, joined by electric arc-welding. Total length of the new units will be 287 miles.

Officials in the Tulsa office state that bids on the project will be accepted about October 6 or 7, with actual work to start by the middle of the month. It is hoped the lines will be ready for use by January 1.

All new materials will be used, and the course has been planned so as to miss difficult river crossings and most of the rough territory in the Ozark mountains through which the line must pass. There will be two loops in Oklahoma, five in Missouri, three in Illinois and three in Indiana.

## NEW PIPE LINE

### Michigan-Toledo to ship Pure's Michigan crude

**Mount Pleasant.**—Pure Transportation Company, major crude oil buyer in Michigan, may discontinue all lake tanker movement of crude oil from Bay City to Toledo, Ohio, with the close of the current shipping season as a result of a deal closed with Michigan-Toledo Pipe Line Company to transport 10,000 to 15,000 barrels daily to Pure Oil Company refinery at Toledo, via pipe line.

Construction is to be started immediately by Michigan-Toledo Pipe Line Company affiliated with Roosevelt Oil Company and Simrall Pipe Line Company and Standard Oil Company of Ohio, on 12 miles of 6-inch line from the Mt. Pleasant terminal to Pure's Greendale tank farm. The main pumping station at Crystal, Michigan, on the 8-inch Mt. Pleasant to Toledo line will have capacity increased by addition of a third unit and a new booster station set in the line near Lansing, Michigan.

The additional unit at Crystal station with the Lansing booster wil give the system a 24-hour pumping capacity of approximately 16,000 to 20,000 barrels. The booster and new unit with 12 miles of new line with certain other changes will involve an expenditure of about $150,000 to equip the present system to handle the Pure committments.

In 1929, shortly after production was established in Central Michigan, Pure Transportation Company, then Pure Pipe Line Company, established its main tank farm at Greendale 12 miles east of here, and laid a 6-inch main to lake tanker docks at Bay City, 52 miles northeast of the tank farm. With the exception of winter shipments by rail from both Bay City and other field points, virtually all Pure's transportation of crude has been handled by boat. The company has about 825,000-barrel storage capacity at the two farms.

Two months ago Pure started conversion of its Bay City crude tank farm into a gasoline terminal. Gasoline will be moved to the terminal from Toledo by tankers. It was generally understood when the conversion was started that only part of the terminal would be converted for gasoline but later negotiation of favorable contracts with Michigan-Toledo may result in complete abandonment of Bay City as a crude shipping point.

Michigan-Toledo Pipe Line Company was organized by Standard Oil Company of Ohio and Roosevelt Oil Company of Mt. Pleasant late in 1935 with the Mt. Pleasant to Toledo 8-inch line placed in operation in March of this year. Michigan-Toledo is not a gathering or field purchasing company. Up to this time all crude moved was purchased by Simrall Pipe Line Corporation Company, an affiliate of Roosevelt Oil.

The new program is expected to be instituted within 60 days.

Details of the plan were revealed here this week by D. E. Beach, general superintendent of Pure Transportation Company and Delbert Hewitt, superintendent of Michigan-Toledo Pipe Line Company.

## TALCO OUTLET

### Humble has completed a line to the field

MT. PLEASANT, TEXAS.

MARKET relief for operators in the Talco field, which has 80 flowing and pumping wells in the Paluxy zone near the 4300-foot level, was provided October 1 through the completion of Humble Pipe Line Company's trunk line outlet. This carrier, consisting of about 65 miles of 8-inch coupled and welded pipe, extends to Longview junction, where connection is made with the company's 10-inch line that delivers Van crude to Standard Oil Company of Louisiana's refinery and tanker terminal at Baton Rouge, La.

Talco crude, which contains a high sulphur content and ranges from 15 to 24 degrees in gravity, has been difficult to market in tank car lots at the posted price of 60 cents originally posted by Talco Pipe Line Company and on April 15 met by Humble Oil & Refining Company in making royalty payments. The latter has 26 completed wells, and is confronted with a major drilling program in taking care of direct offsets to its scattered acreage and also in satisfying royalty owners. Oil produced by Humble Oil & Refining Company and from part interest leases operated by others has been stored in two 55,000-barrel steel tanks near Talco during the past three months.

Market for Talco oil has been restricted to sales developed by Talco Pipe Line Company; W. B. Hinton; Sanders and J. W. Murchison. Bulk of the shipments have been made to East Texas cracking plants, and to refinery near Houston, but the net price paid producers lately has been about 51 cents per barrel at the well.

Reports credit Humble Pipe Line Company with plants to serve all well connections offered up to a specific quota during the remainder of the year, and will pay 60 cents per barrel at the well. The company posted a tariff of 20 cents per barrel from Talco to Anchorage terminal, near Baton Rouge, with a five-cent field gathering charge, effective September 28. The Talco-Longview line will operate for the time being with a single main line station, but site has been taken for an intermediate booster station.

Allowable production for Talco was tentatively set at 6168 barrels daily by the commission, beginning October 1. This sum is not sufficient to enable each well to produce 100 barrels daily, or its maximum up to that level, and a lower well allowable is likely to be placed in effect. The field has 12 completed wells that are not capable of producing the 100 barrel daily quota permitted since September 1.

## PIPE LINE RUNS UP

### More oil moved in 1935 by interstate systems

WASHINGTON, D. C.

FIFTY-THREE pipe line companies subject to the control of the Interstate Commerce Commission last year transported 722,995,200 barrels of crude oil originating on their own lines and 281,970,041 barrels received from connecting lines, according to the annual report on pipe lines issued by the commission September 28.

In addition, the lines transported 43,593,203 barrels of refined products originating in their own territory and 10,282,045 barrels received from connecting lines.

In 1934, these companies handled 557,314,540 barrels of crude and 35,280,864 barrels of refined products originating on their own lines. No comparative figures, however, were available for oil received from connecting lines.

In making public its report on pipe line operations, the commission explained that it covers only those companies subject to federal regulation, estimated to account for 80.92 percent of the total pipe line mileage of the country.

The 53 companies reporting had a total of 39,380 miles of gathering lines and 52,657 miles of trunk lines, in both cases a decrease from the 1934 total of 39,665 miles of gathering and 53,405 miles of trunk lines. The investment in carrier property, however, increased from $758,171,930 to $763,009,274, and

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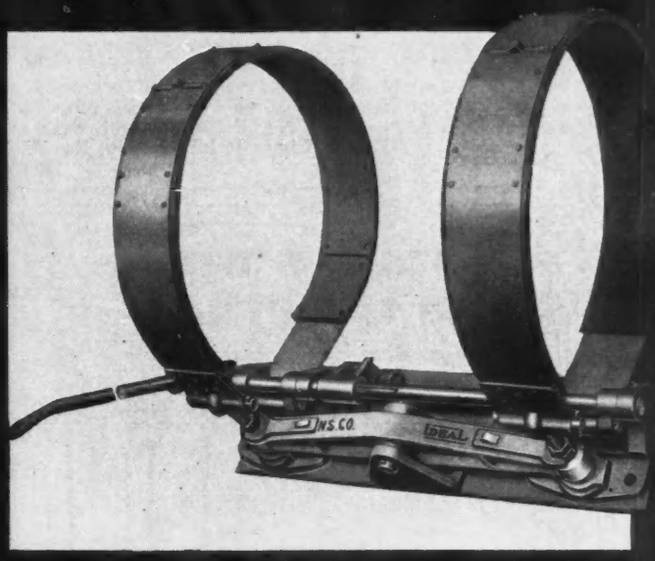
The performance of the Ideal Type "K" Compound Equalizing Brake has been recognized and accepted as the standard of comparison for brake operation since its introduction seven years ago.

This brake employs a novel compound leverage mechanism which gives a high mechanical advantage without the feeling or danger of the break linkage going "over center". The compound leverage mechanism is assembled in a one-piece steel frame, thus avoiding deflections and strains that are present in designs employing a number of detached brackets.

Another original feature of the Type "K" Brake is the unique stabilizer that maintains the equalizer beam in a horizontal position, except as may be otherwise required incident to its equalizing function.




In response to numerous requests, the Type "K" Brake is now available for practically all types and makes of Draw Works.

The features of this Brake, which is a distinctive development by National's engineers, are fully covered by U. S. Letters Patent Nos. 1,525,666; 1,956,432; 1,956,433 and 2,006,064.

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other investments from $57,275,259 to $119,070,887.

Operating revenues, the commission reported, decreased from $199,165,597 in 1934 to $197,368,209 last year, while operating expenses increased from $86,884,162 to $89,363,921.

The companies paid out $20,717,656 in federal and $7,701,008 in other taxes in 1935, it was reported. No comparable figures are available for 1934.

Pipe line operating income last year was $79,585,624 against $84,864,828, and net income was $78,249,400 against $84,143,318. Dividend appropriations were $133,667,768 against $83,954,582 in 1934, of which $48,569,830 against $30,410,912 was paid from current income and $85,097,938 against $53,543,670 from surplus.

## DON'T WANT MAJORS

### Opposition to large pipe line concerns voiced

WICHITA FALLS.

AN unidentified group of operators in the Bruhlmeyer field, situated about four miles southeast of Gainesville, Cooke County, and citizens of the latter town, have circulated petitions that voice opposition to the entrance of major pipe line companies into the field as purchasers. Several majors have considered the building of pipe line extensions to obtain promised connections, as the field is the most active area in North Texas, and wells average 500 barrels initial from the 2000-foot sand. Independents have completed 54 wells, which are currently prorated to 10½ percent of their potential above marginal allowance of 20 barrels, or about 70 barrels per well daily. Top allowable of 3600 barrels daily has been authorized for October.

Opposition to the majors is primarily based on the fact that three independents have installed crude gathering systems connected to tank car racks, and Gainesville Refining Corporation has placed in operation a 1000-barrel refinery and Tydal Refining Company has a 2000-barrel plant about 50 percent complete. A large payroll is expected to be maintained by these independents.

Proration enforcement by the commission is largely left to the crude purchasers, and tenders are not required. Crude produced in the Bruhlmeyer field average above 40 gravity, and the current price at the well ranges from 92 to 95 cents per barrel, although majors pay a top price of $1.08 in North Texas. Anderson-Kerr Petroleum Company, Oklahoma City, discoverer of the field and a leading producer, is said to be negotiating for a contract to move its production by rail to Pauls Valley, Oklahoma, and make deliveries there to a major at the Oklahom top posting of $1.18 per barrel.


**THE OIL WEEKLY WILL COMMENCE THE PUBLICATION OF A SERIES ON**

# WATER FLOODING

THE PROBLEM of procuring additional ultimate production and prevention of lease abandonment after natural producing methods have become uneconomical is of direct vital importance to all stripper well operators, and to the industry at large. Outstanding today in the application of secondary recovery practices is the rapid increase in number of water-flood projects in the Mid-Continent, where operators were faced with unprofitable operation or junking of properties—in either case a loss. If water flooding is as successful in the Mid-Continent as it proved in Pennsylvania, this serious situation may be postponed for many years and much additional production recovered at a profit.

It is too early to foretell definitely final results of water flooding in the Mid-Continent, but many pertinent questions can be answered and THE OIL WEEKLY will do so in a series to start in an early issue. Unlike many previously published articles, this series will not be constituted of news items and other statements of that type, but will discuss indicated results from various properties and describe in detail the practices being employed by different operators—which, we feel, will serve as a valuable and interesting guide to those contemplating the application of water flooding in Mid-Continent stripper areas.


## NEW CORPUS PLANT

### Construction of a 2500-barrel refinery started

CORPUS CHRISTI.

ANOTHER refinery for the Corpus Christi ship channel brings the total number of new projects for the year to six. The newest plant already has been commenced with its completion being rushed to handle crude contracts already made.

The plant will be for Terminal Refining Company of Corpus Christi, and will have a capacity of at least 2500 barrels. It will be a skimming unit to cost approximately $50,000.

The company is headed by T. C. McArdle of Chicago, and A. R. Matthews of Fort Worth.

The plant will be on a site just west of the City of Corpus Christi, and near the ship channel and chemical plant. A terminal will be constructed at the refinery site for the storage of both crude and refined oils, which will be sold for American consumption and moved out of Corpus Christi by coastwise tankers.

This plant's source of crude will be Potter Pipe Line Company, which has just completed an extension of its line from the Saxet Heights Field to the Clarkwood townsite. Light crude from the 5800-foot sand area near Clarkwood will be used.

At this time, Corpus Christi Refining Company is constructing a large addition to its plant, Amsco Refining Company is building a new plant, Hanlon-Buchanan, Inc., is commencing a blending plant, and another concern is negotiating for the construction of a new plant on the ship channel.

Petrol-Coastal Refining Company's plant project, which was announced last week, is being started. It will have a capacity of6000 barrels per day. Together with a 500,000-barrel terminal, this project will involve an expenditure of $1,000,000.

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# MEN IN THE INDUSTRY'S NEWS

**M. E. BROCK,** of the Gulf Oil Corporation, Houston, Texas, has been appointed chairman of the nominating committee which will select 20 candidates for election as members of the General Committee of the American Petroleum Institute's Division of Production for 1937. Five other members will be appointed by the Institute's board of directors, the election taking place and appointments being made during the Institute's 17th annual meeting in the Stevens Hotel at Chicago, November 9-12.

Members of the committee are: J. C. Askam, Ohio Oil Company, Findlay, Ohio; Charles Fitzgerald, Sinclair Refining Company, Fort Worth; J. T. Hayward, Barnsdall Oil Company, Tulsa; B. E. Hull, Texas Pipe Line Company, Houston; W. M. Irish, III, Atlantic Oil Producing Company, Dallas; D. R. Knowlton, Phillips Petroleum Company, Bartlesville; T. W. Phillips, Phillips Drilling Company, Butler, Pa.; A. C. Rubel, Union Oil Company of California, Los Angeles; M. R. Shaffer, Empire Companies, Bartlesville; J. U. Stair, Shell Oil Company, Los Angeles; H. M. Stalcup, Skelly Oil Company, Tulsa; R. C. Stoner, Standard Oil Company of California, San Francisco; John R. Suman, Humble Oil & Refining Company, Houston, and F. E. Wood, Standard Oil Company (Indiana), Chicago.

**DILWORTH S. HAGER,** consulting geologist and co-discovered of the Sulphur Bluff oil pool in the Mexia-Talco fault zone, Northeast Texas, was guest speaker at meeting of the Dallas Petroleum Geologists September 28, and spoke on the Geology of the Talco Region.

**O. H. POWELL,** Texas superintendent for Stanolind Pipe Line Company and Pan American Pipe Line Company with headquarters at Fort Worth, departed last week for Wyoming to join a group of officials of Stanolind Pipe Line Company in making an inspection of the reconditioning work being performed on the latter's trunk line system.

**C. H. RANKIN,** who was production foreman for Continental Oil Company in the Jesse field of Pontotoc County, Oklahoma, has been transferred to Shiprock, New Mexico, where he will serve as district superintendent. He succeeds E. M. Ramsey, who was killed in a recent automobile accident.

**J. M. JONES,** formerly production foreman at Borger, Texas Panhandle, for Continental Oil Company has been transferred to the same position at Jesse, Oklahoma.

**SAMUAL A. HARTWELL, JR.,** who has been abroad for the past year and a half as European Manager of the Pennsylvania Grade Crude Oil Association, is now on his way back to the United States and will return to the Oil City headquarters offices about October 1. Hartwell, who comes back to the association offices as assistant secretary, has been relieved by S. F. Pratt, who is now in Europe in charge of foreign operations. Pratt has been abroad since the early part of August and spent several weeks going over the territory in company with Hartwell.

**PHIL MARTYN** of Houston Oil Company has been elected president of the Houston Geological Society for the coming year. Other officers elected were: O. L. Brace, consulting geologist, vice president; Wallace Thompson, General Crude Oil Company, secretary and treasurer. The advisory board officers elected included the following: Perry Olcott, Humble Oil & Refining Company, Lon Cartwright, Skelly Oil Company, and Cliff Bowles of Standard Oil Company of Kansas.

PHIL F. MARTYN

**H. EARL MARSH,** head of the land department in the Fort Worth district for Amerada Petroleum Corporation, and Mrs. Mary Lee Carroll, were married September 29 at Fort Worth, and sailed the following day from Galveston for a New York honeymoon.

**MIKE H. SHANAHAN,** assistant manager of production and drilling for Continental Oil Company, with headquarters at Ponca City, Oklahoma, visited the Fort Worth district office the past week.

**CHESTER F. BARNES,** who for the past 6½ years has been with the geological and geophysical department of Humble Oil & Refining Company, has resigned to enter private practice as geologist, geophysicist and operator with headquarters at Gainesville, Texas.

**RICHARD Z. WILLIAMS** has been appointed deputy inspector in charge of the E. W. Saybolt & Company eastern Coast District with headquarters in the Masonic Building, New Orleans, La.

**JOSEPH A. SKELLEY,** assistant to the president of Stanolind Pipe Line Company returned to Tulsa last week from Nebraska, where he has been inspecting company properties.

**R. G. WHITE,** engineer for the Texas Railroad Commission with supervision over refineries and oil stored in earthen pits in the East Texas field, resigned effective October 1.

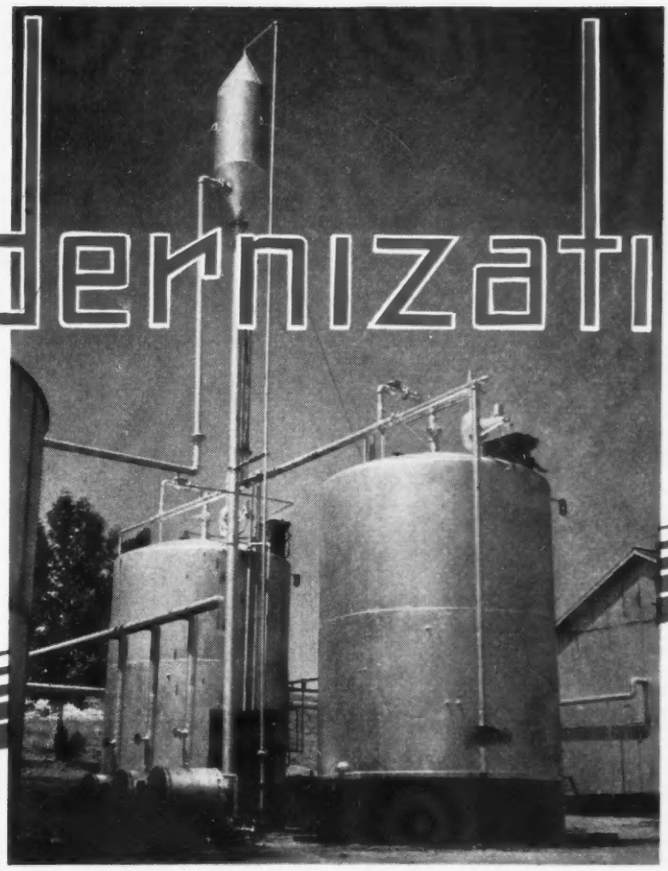
**HARRY M. RUGG,** an automotive engineer, has been appointed to the staff of the Pennsylvania Grade Crude Oil Association of Oil City, Pa. He will make his headquarters in Detroit where he will keep in touch with developments in the manufacturing industry and with prospective changes in automotive design. The appointment was effective September 15. Rugg has had extensive experience in the automotive and lubrication field and has also spend some time in instructional and employee training work. He was an instructor at the University of New Hampshire after attending the same institution and then was graduated from the Coast Artillery School for Commissioned Officers at Fort Monroe, Va. During the war Rugg was an instructor at the Massachusetts Institute of Technology and later director of technical education in the United Y. M. C. A. schools. Following the war he was employed in a research capacity by Dodge Brothers Company. During this connection he spent some months at the Bureau of Standards in Washington where he assisted in setting up the original program for the Cooperative Fuel Research. He then entered the employ of the Texas Company, also in a research capacity. More recently he was assistant to the chief of the engineering division of the automotive department of the Vacuum Oil Company. Rugg is a member of the Society of Automotive Engineers and the American Society of Mechanical Engineers.

## DIED:

**SAM A. GUY,** 74, veteran oil man of Caddo Parish, Louisiana, was found dead September 29 in a Shreveport hotel. Apparently he had shot himself. Guy was one of the earliest operators in the Caddo field.

**ARTHUR SIDNEY HENLEY,** aged 57, geologist, who had resided in Glendale, California, the past seven years, in retirement because of ill health, died there September 5. He had partially regained his health, and death came from heart failure. He was a native of California. He became interested in the oil industry about 20 years ago, prior to which he was a mining engineer, working in the mining camps of California, Nevada, Alaska, and Venezuela. In his geological work in the petroleum industry he was active in Oklahoma, Texas, and adjacent states. As chief geologist for Houston Oil Company, at Houston, Texas, 1923 to 1926, he directed exploration work that led to discovery of the Lucas natural gas field, Live Oak County, southern Texas. Henley was a member of the American Institute of Mining and Metallurgical Engineers and also of the American Association of Petroleum Geologists. He was married in 1913 to Constance M. Jordan, who survives him, together with two children, Arthur S. Henley, Jr., and Ruth.

# Modernization



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Operators should give serious consideration to the modernization of dehydrating plants of both the flow-line and batch treating types, thereby taking full advantage of all the improvements available. This procedure will assure the widest range of utility, improved performance and results, automatic and more efficient operation and control, as well as considerably reduced labor and overall treating costs.

Petreco engineers will check equipment, methods and costs and give accurate estimates of the improved performance and savings possible through modernization of existing plants. Their services are available on request without obligation.

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The uniform high quality of J & L Seamless Line Pipe is safeguarded through an unusually rigid system of tests and inspections, making sure that every length of J & L pipe measures up to Jones & Laughlin's traditionally high standard of quality.

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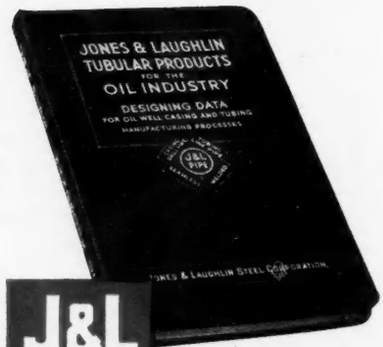


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**COMPLETION TECHNIQUE, METERING UNDER HIGH PRESSURE, AND STABILIZATION OF CRUDE FEATURE**

# *Practices at Tepetate*

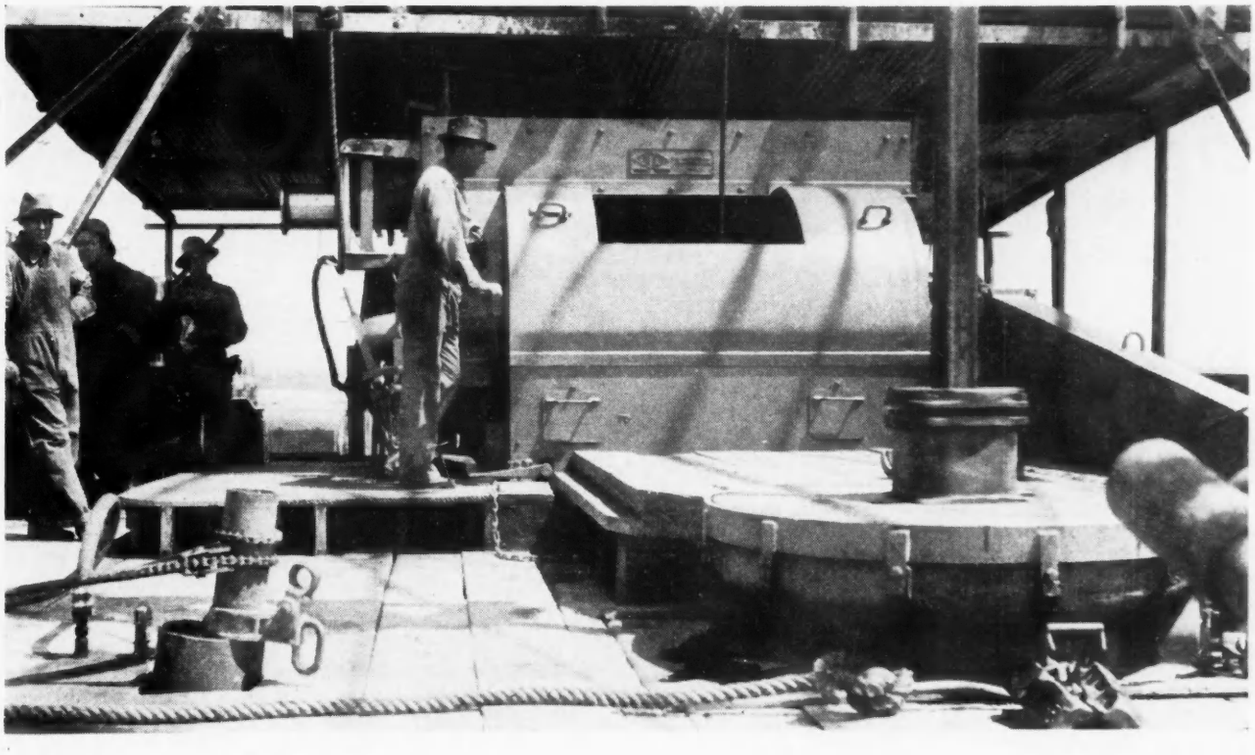
By BRAD MILLS, Associate Editor

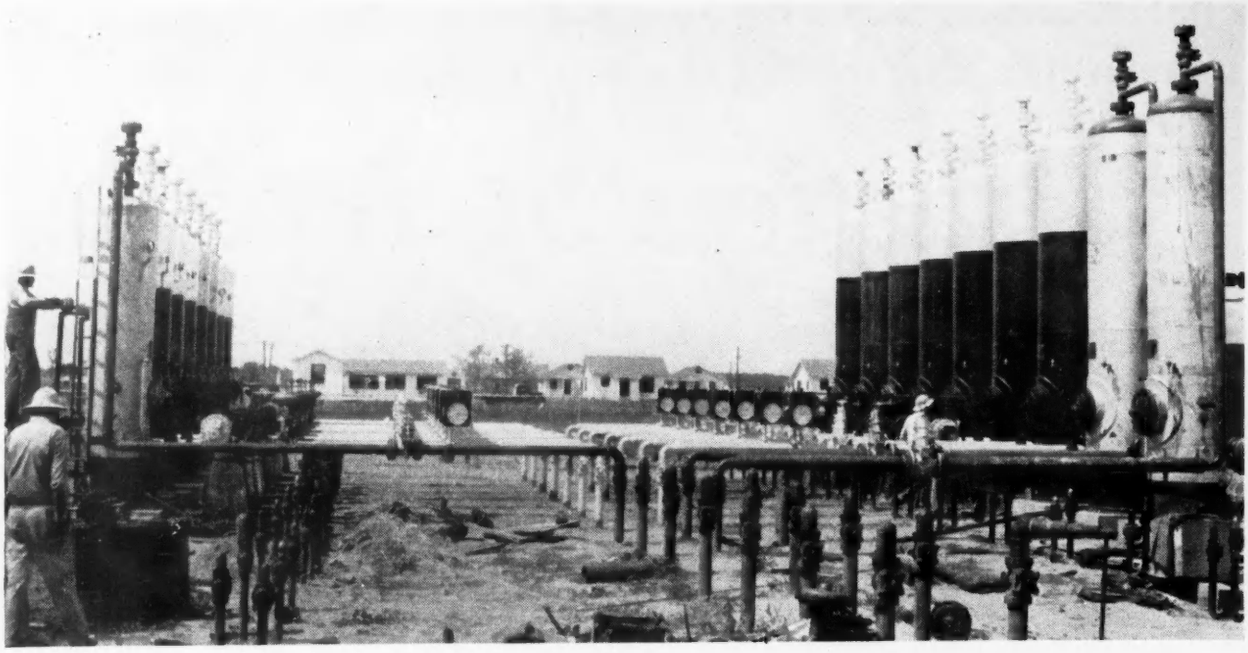
AN orderly development program is being followed in the new Tepetatè, Louisiana, field by Continental Oil Company, and several interesting drilling and production practices have been applied in an effort to overcome a number of problems peculiar to the area. An effective completion technique, metering of oil under high pressure, and stabilization of the oil to prevent loss in transit feature operations in a new type of field for South Louisiana. The company has been forced to do much pioneering, and several contributions to drilling and production engineering may come from efforts to produce and handle a light oil from a deep producing zone having a very high pressure.

The Tepetate structure was discovered by torsion balance in 1930 under the direction of the late Mordelo L. Vincent, but the importance of the work was not fully recognized at the time. Several major companies subsequently checked the original torsion balance picture with reflection seismograph, but they were not satisfied with the indicated closure. At least three companies examined the block before Continental Oil Company became sufficiently interested to check the original and subsequent work with reflection seismograph. Continental's geophysical work was indicative of good closure, and the company acquired a large block of acreage covering practically the entire structure before drilling was started.

The discovery well was spudded in May, 1935, and completed in August. Initial production was 31 barrels per hour through a quarter-inch choke from 8313 feet. Completion of this well, Theogene Ortego 1, opened a new type of producing area for South Louisiana and emphasized the possibilities of the Marginulina-Frio formation. Very high tubing and casing pressures pointed to a satisfactory flowing life, although the zone from which the oil was coming showed a nominal thickness. A greater thickness of gas sand was cored above the oil pay over most of the structure but that was not considered a barrier

**Unusually fast drilling time is made in the Tepetate field. The drilling equipment ranks with the most modern used in any producing district**





**A battery of separators and meters in use at a central field point near the crude-stabilizing unit. The small separators on the left handle individual wells, while the larger ones on the right handle groups of wells**

to satisfactory gas/oil ratios. The casing pressure was about 3050 pounds and the tubing pressure about 2300 pounds during the flow test with a small choke.

The company recognizes the producing formation as the Lower Marginulina, but other operators believe that production is coming from the Frio, which previously had yielded no commercial oil in South Louisiana.

Twenty-four wells have been completed in the field, and exceptionally complete well record data have been kept. In the average producer, the Miocene was topped at 2150 feet, Discorbis at 6730 feet, Eponides at 6870 feet, Heterostegina at 7050 feet, and Marginulina at 7300 feet. The Discorbis is very irregular and not present in many wells. It is not recognized as a definite or reliable marker. There are four good Marginulina markers between 7300 and 8300 feet.

The formation from which production is obtained has been named the Ortego sand, and it falls either in the Lower Marginulina or the Frio of the Oligocene. This formation is a very loose and porous sand that crumbles easily when brought to the surface. The maximum thickness of the oil sand is 28 feet of which about seven feet is interstratified shale. The gas sand lies immediately above the oil sand and ranges in thickness from 10 feet in the marginal areas to more than 70 feet on top of the structure. The gas and oil sand are in reality the same formation, making it difficult to shut off the gas and include only the oil producing strata. The same is true of water underlying the oil. Careful coring and correlation work has fixed the approximate gas, oil and water levels, and satisfactory gas/oil ratios have been obtained in most of the producing wells.

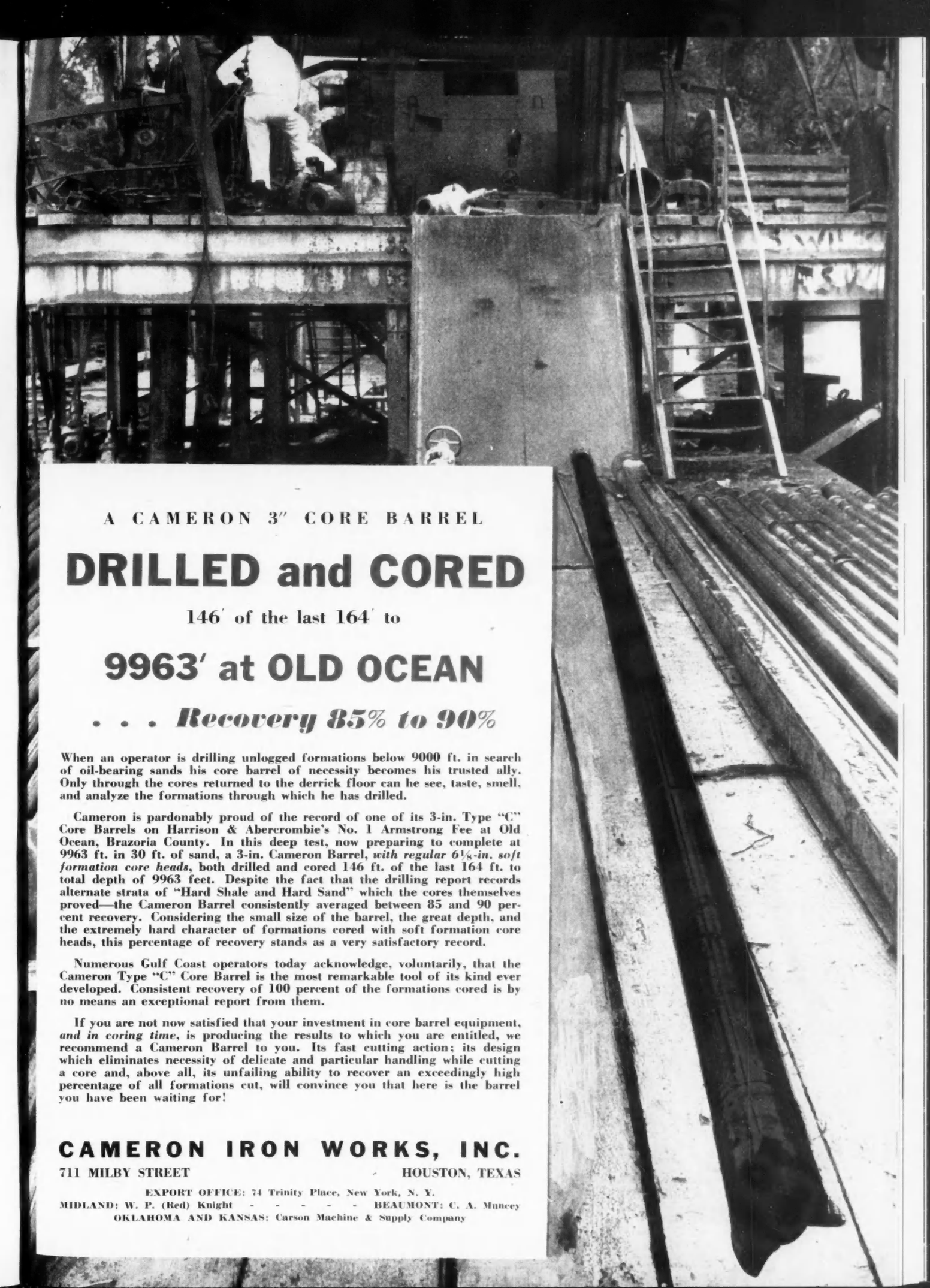
North-south and east-west cross sections of the producing zone have been made by the company, and the structure shows a good uniformity with little faulting tendencies. The anticline is flatter than the average for a field of this size, but the closure is satisfactory and a good producing life is anticipated. It is believed now that the field will include about 1200 productive acres but future drilling may change the outlook for edge leases. Enough drilling has not been done to define the producing limits of the field on all sides.

The Vicksburg formation has been tested in a few wells that were low on structure, but it did not prove productive. In Continental Oil Company's H. Klump 1, located about three-fourths of a mile southwest of the discovery well, the Vicksburg was encountered at 8990 feet, and the well drilled to 8999 feet before being plugged back to produce in the Ortego sand. At least three other edge wells were drilled to the Vicksburg but they did not prove productive. Two of these wells were drilled by operators who held extreme edge leases that failed to produce in the Ortego sand.

The Tepetate field is one of the easiest in South Louisiana to drill and exceptional time records have been made. The formations stand up well, a large amount of open hole may be carried, and only a small amount of hard rock is encountered. The principal difficulty lies in the completion of wells after the full depth has been drilled. The structure apparently overlies a very deep seated salt dome, but that has caused only mild folding and faulting in the productive area. The formations above the producing sand lie almost flat and give no trouble during drilling or casing operations.

About 200 feet of hard, limey formation is encountered near the top of the Heterostegina formation, and one more thin, hard streak is found above the Marginulina. It is possible to drill through these hard streaks with an ordinary soft formation bit, but rock bits have been used to advantage.

Wells are completed at about 8325 feet in from 26 to 30 days from the time rigging up is started. As much as 1200 feet of straight hole has been drilled



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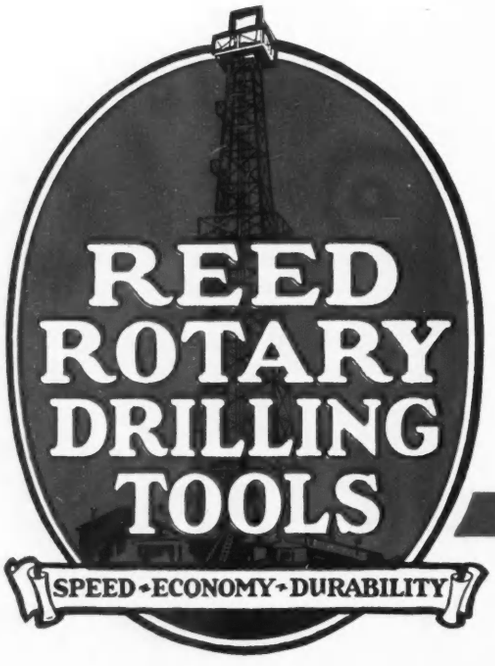


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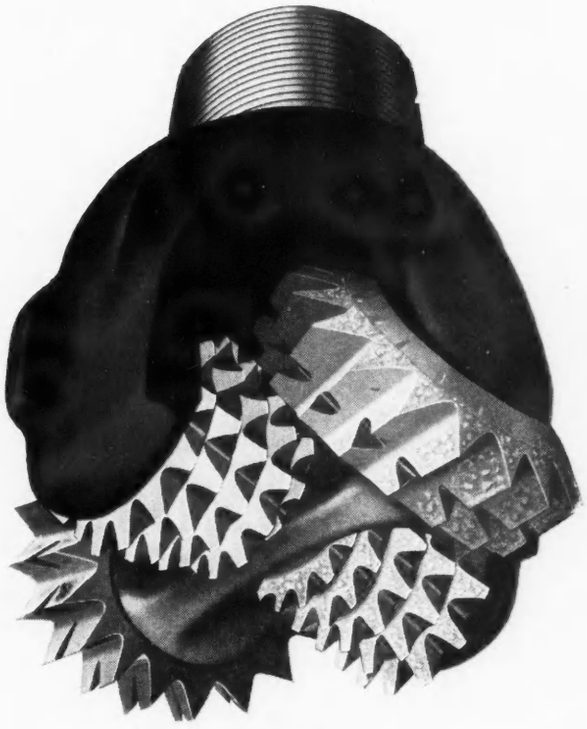

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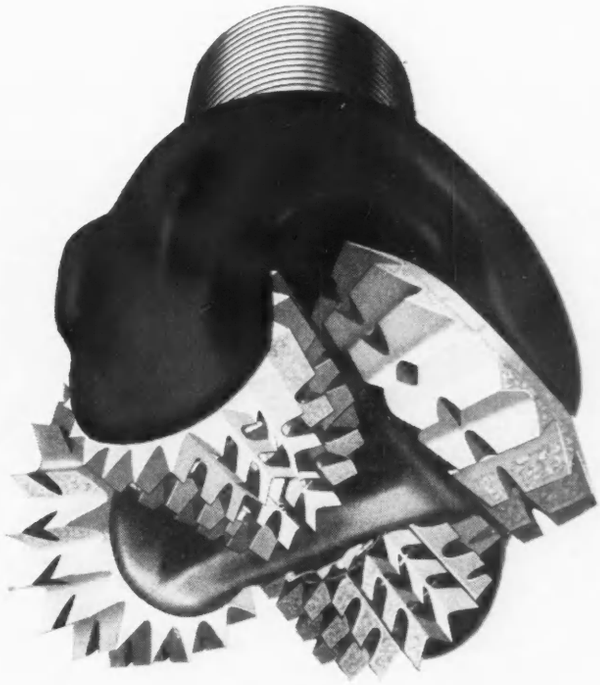

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For hard and tough formations, such as: hard limestones; sand rock; hard shales; and harder formations than those on which the DK - 1 Bit is generally used.

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in 10 hours. It is not unusual to make as much as 5000 feet of hole in a week while drilling in the upper formations, but the average for the lower portion of the hole is much less.

### Casing Practice Is Interesting

A 15½-inch hole is started and it is not necessary to run a surface conductor. A string of 10¾-inch, 35¾-pound is cemented at about 1550 feet, and below this cementing point a 9⅞-inch hole is drilled to bottom. Few producing areas in the world will permit drilling with so much open hole.

The running and cementing of the 5¾-inch combination oil string is an original practice for this area, and it is believed that the shortest section of slotted pipe on record is used in each well. Immediately on bottom of the 5¾-inch oil string is placed a full hole cementing device. A three- to four-foot section of 5¾-inch slotted pipe is placed below the cementing device, and below the short slotted section and on the extreme bottom of the string is the conventional float shoe and valve. The full string is run to bottom, the lower portion of the hole washed and cleaned, and the cement run. The cement leaves the string through port holes in the cementing device and is forced upward immediately above the short section of slotted pipe. The cement fills the space on the outside of the casing above the slotted pipe, but can not flow downward to interfere with the oil producing strata.

When run into the hole, the short section of 5¾-inch slotted pipe is lined with cement that has been spun into place by centrifugal force. Heavy oil paper between the cement shell and the metal is placed there to cover the slots on the inside of the pipe before the cement is spun into place. This practice leaves the slots intact and free of cement, after the pipe has been lined with the cement. Prior to cementing casing, the full combination string is open to bottom, and full circulation through the bottom of the float shoe and upward on the outside of the casing is established.

After the casing is cemented the plugs and cement inside the short section of slotted pipe are carefully drilled out and the well brought in. Care is exercised in drilling out the lower cement and slotted pipe assembly, and drilling stops, just above the valve in the float shoe. The producing formation has a pressure of approximately 3600 pounds and only a limited amount of washing is required to start a normal flow. The slots in the three- to four-foot section of slotted pipe are one sixteenth-inch in width, and the total opening of the slots equals the cross sectional area of the 5¾-inch pipe.

This completion method has been adopted to insure drainage from the correct level in the producing formation. By running a short section of slotted pipe to an exact point and cementing off the upper gas, a good flow of oil, and a low gas/oil ratio have been obtained in recent completions. The upper portion of the producing zone carries gas, the intermediate portion gas and oil, and the lower section oil with very little free gas.

Some of the recent completions have shown a gas/oil ratio comparable to the amount of gas in solution in the oil, indicating that all of the upper gas was shut off.

The new completion method has proved very satisfactory, including both gas and water, and no sand trouble has been experienced through the use of slotted pipe without screens. The short section has provided enough drainage to give the wells their full normal flow. Entry of the oil through the short section of slotted pipe, set midway between the gas contact above and the water contact below, facilitates the control of both gas and water.

Use of 5¾-inch oil strings instead of seven-inch strings has sharply reduced casing costs. All wells are completed with tubing. The tubing strings are run to various depths in different wells. The fluid level in the average well is high and a full tubing string to bottom has not given an advantage over the shorter flow strings.

### Well Pressures Are High

Well pressures are very high, but they are regarded as an asset in a field producing from such a great depth. It is estimated that the original bottom hole pressure was about 3700 pounds. In some of the flowing wells, the casing pressure is as high as 2900 pounds, and the tubing pressure 2600 pounds. The shut-in pressures are much higher. Both tubing and casing pressures, as measured at the well head are affected by the fluid in the hole and do not indicate true bottom hole pressures.

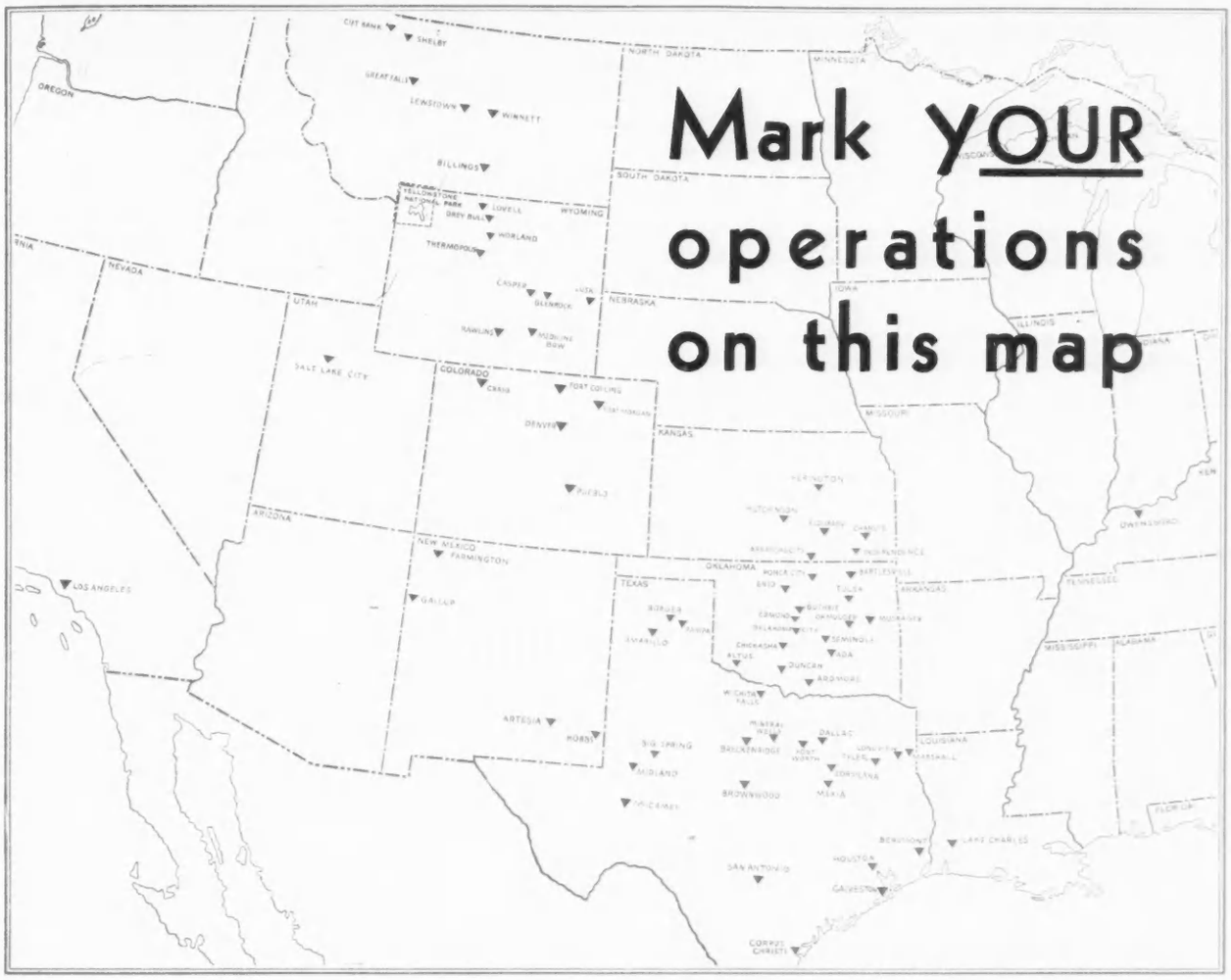
Wells come in with initial flows of 200 to 800 barrels per day through chokes ranging from 9/64 to ¼ inch. Higher initial flows might be established through larger chokes, but the company does not wish to unnecessarily deplete gas energy or cause water coning by such practice. The present field allowable is 5000 barrels, the total being based on the field as one unit and not on the productive capacity of individual wells. The present development plan calls for one well to each 20 acres, a spacing that should provide a reasonable return for each average producer.

Several conditions combine to give trouble in the production of oil, but the field also has a number of natural advantages. The oil ranges from 32 to 54 gravity, and in the lighter gravities it is not a stable product. The necessity for stabilizing the oil before shipping it from the field has led to a number of field practices entirely new to South Louisiana.

Continental Oil Company has in use the most elaborate installation of high-pressure oil meters ever assembled for measuring crude oil under direct well pressure. Traps and the regulators beyond the meters are set to accomplish a sharp pressure drop between the well and the meters, but the metering pressure is high enough to force the oil through a stabilizing plant and to storage.

All meters are of the positive piston displacement type and were designed to operate at a maximum working pressure of 500 pounds. Two sizes, the 1½-inch and the two-inch types, are being used. The capacity of the 1½-inch size ranges from two-tenths to 1.66 barrels per minute, while the capacity of the two-inch size ranges from five-tenths to 3.57 barrels per minute.

The meters are used in connection with separators. The regulator arrangement is such that the flow of oil and gas from the well comes to the separator and meter at a pressure of 330 pounds. The oil is metered at separator pressure and goes to an oil header that is common to all separators. The gas from the separators is metered with orifice meters

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CONTINENTAL OIL COMPANY – Est. 1875

and goes to a gas header that also is common to all separators.

Operation of the oil meters under high pressure has necessitated a great deal of pioneering by the company. Meters never have been used under such conditions, and because of the necessity for sending the oil through a stabilization unit, is was desirable to conserve the flowing pressure of the wells and use it to maintain flow in the plant. It also has been necessary to meter the oil accurately, with adequate checks on individual meters. The meters are extremely accurate and their use has been entirely satisfactory.

The company maintains a systematic check on the accuracy of each meter. One simple method of doing this is the running of oil from a high-pressure meter through a 50-pound separator, metering the oil and gas from the second separator, calculating the gas to a liquid solution volume equivalent, and checking the sum of these two against the amount shown by the 330-pound meter. The meters also are checked by pumping dead oil through them from one 100-barrel test tank to another.

Thirty-inch and 36-inch diameter gas separators are used, and all meters and separators are located in one battery at the stabilization plant. The 36-inch separators are used for handling either the flow from relatively large wells or from groups of wells, while the 30-inch separators are used for individual wells. Flow lines to the 30-inch separators are two inches in diameter, while the flow lines to the 36-inch separators are three inches in diameter. The gas header line leading from the separator unit to the stabilization plant is eight inches in diameter, and the oil header line paralleling it is six inches in diameter.

The flow arrangement from each meter operating at 330 pounds is such that it is possible to send the metered crude oil into the common oil header, or to divert the flow to the checking line. By switching systematically from one meter to another, it is possible to maintain accuracy through frequent checks.

### Use a Stabilizing Plant

Tepetate crude oil is not a stable product, and the company is forced to stabilize the oil before shipping it from the field. The stabilization plant, however is in no sense of the word a refinery. The oil is sent through a stabilizing unit simply to remove the light fractions that would ordinarily escape during normal transportation. The light fractions removed are methane, ethane, propane, and perhaps a small amount of butane.

After metering the gas and oil from the wells, the oil then goes to the heat exchangers at a pressure of 100 pounds, after which it goes to the preheater. From the preheater the oil goes to the stabilizer at a temperature of 260°F. The stabilizer operates at a pressure of 55 pounds, and is equipped with a reheater, which may be used if necessary. From the stabilizer the oil flows back through the heat exchangers, through the cooling tower, the master meter, and to storage under plant pressure.

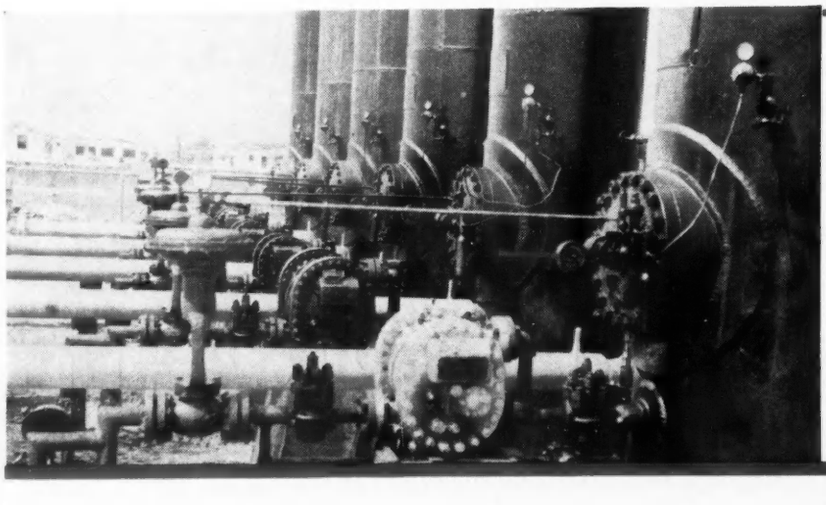
The gas from the primary separators goes through a gasoline absorber system of conventional design at pressures between 200 to 300 pounds per square inch.

The light fractions obtained from the crude stabilization, and other separator gases collected at pressures below the main absorber pressure, are processed through a low pressure reabsorber for gasoline removal.

The first accumulation for shipment of Tepetate crude oil to the company's Baltimore refinery showed a heavy shrinkage. The loss was more than 12 percent, and far greater than the average for crudes of similar gravity.

After passing through the stabilization unit, the stabilized crude oil is measured on its way to storage by a three-inch, low pressure meter of the positive piston displacement type that has a capacity of 30 to 300 gallons per minute. The oil passing through this meter, plus the other products recovered, plus the residue equivalent equals the total shown by the oil and gas meters recording the well flow at 330 pounds.

One 80,000-barrel tank provides field storage for the stabilized crude oil. Continental Oil Company pumps the oil to its own terminal at Lake Charles, a distance of 45 miles, through a 6-inch pipe line. There are three 80,000-barrel tanks at the terminal. The oil is shipped by ocean tanker from Lake Charles to the company's Baltimore refinery. This direct connection between field and refinery is an unusually long one. Natural gas for Mathieson Alkali Works goes to Lake Charles through an eight-inch pipe line.



**A close view of some of the meters and flow-control back-pressure regulators**

# *A Study of Permeability Measurements*

## AND THEIR APPLICATION TO THE OIL INDUSTRY

By K. H. CLOUGH, Chemical Engineer,
W. H. Curtin & Company, Inc.

### PART 2

#### Mechanics of Permeability Measurement

THE fundamental law of the movement of any fluid through formations essentially porous in nature is that in any given stratum, the rate of such flow varies directly as the pressure gradient and, likewise, inversely as the viscosity of the fluid. This means that for a given formation of given size pores for a definite fluid, the greater the pressure or driving force, the greater a flow will be across a given cross section and a given length. This law (D'Arcy's) when expressed volumetrically is as follows:

$$V_x = \frac{K}{Z} \times \frac{\Delta P}{\Delta X}$$

in which formula, $V_x$ is taken as the velocity of the fluid through a unit area of the porous medium under consideration; K equals permeability of the porous medium; Z equals the viscosity of the fluid under consideration (sometimes designated as "$\mu$"); and $\frac{\Delta P}{\Delta X}$ is the pressure gradient at the point where the determination is made. Thus, to solve for permeability of K, this equation becomes:

$$K = \frac{V_x Z}{\frac{\Delta P}{\Delta X}}$$

or:

$$K = \frac{V_x Z \, \Delta X}{\Delta P}$$

Assuming the length of the porous medium to be L and the pressure at the upstream end to be $P_1$ and the pressure at the outlet, or downstream, end to be $P_2$, then the pressure gradient becomes $\frac{P_1 - P_2}{L}$ or expressed as the pressure differential or pressure drop per length L. This may be shown more clearly by selecting a porous medium as shown in Figure 1, in which the infinitesimally small cross-section ABCD, taken at point Y with fluid flow in the direction X along the length L, where $P_1$ is the pressure at the inlet end of the length L and $P_2$ is the outlet pressure, and A may be taken to designate the cross-section area of the entire sample, then the velocity of fluid flow which has been expressed above as $V_x$ and the pressure difference from $P_c$ to $P_d$ has been expressed as $\Delta P$, and the distance from C to D in the direction X referred to as $\Delta X$. The expression $\frac{P_c - P_d}{\Delta X}$, which represents the pressure drop or gradient for the infinitesimally small distance CD or as has been expressed above as $\frac{\Delta P}{\Delta X}$ can for an incompressible fluid be expanded to the expression which has been given above $\frac{P_1 - P_2}{L}$, as for an incompressible fluid, the pressure drop from the inlet end to the outlet end of the sample will be constant over the length of the sample.

Thus, the expression for permeability now becomes:

$$K = \frac{V_x Z L}{P_1 - P_2}$$

For a unit area, or for the finite area A, and with the total volume of fluid passing through expressed as Q, then the term $V_x$ becomes equal to $\frac{Q}{A}$ which may be substituted and from which we derive the

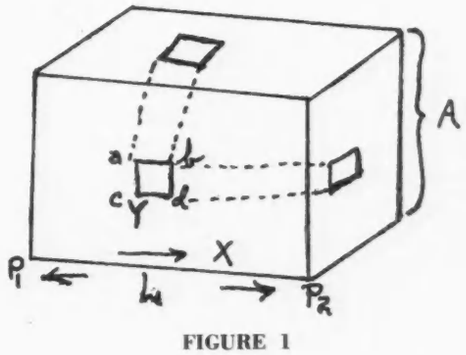



FIGURE 1

equation for permeability when an incompressible fluid is used:

$$K = \frac{ZL\frac{Q}{A}}{P_1 - P_2}$$

or:

$$K = \frac{ZQL}{A\,(P_1 - P_2)}$$

In the event of a compressible fluid being used, the velocity Vx will not be constant due to the compressible nature of the fluid. Vx will change constantly along the length L, becoming larger as the gas expands, due to lowering in pressure from pressure $P_1$ to $P_2$ at a distance L from the point where $P_1$ is measured. Similarly, the pressure gradient will also increase directly as Vx increases. It has been shown by Muskat and Botset that the squares of the pressures do remain constant. Thus, we of necessity deal in our equation with Q or "Q average" and the mean pressure through the length L, which may be expressed as $\frac{P_1 + P_2}{2}$ and, thus, our final equation becomes one that will serve for both compressible and non-compressible fluids and is expressed as follows:

$$K = \frac{Z\bar{Q}L}{A\,(P_1 - P_2)}$$

Thus, it may be seen that for gas flow experiments, the permeability may be calculated in exactly the same manner as for liquid flow experiments with the exception that the rate of flow must be reduced to the algebraic mean pressure in the pore spaces of the porous medium.

The formulae derived above are for viscous flow only, as with turbulent flow energy is dissipated due to the formation of eddy currents. It may be thus seen that in the case of viscous flow all of the energy supplied is energy of motion plus frictional energy, whereas, for viscous flow the dissipated energy in the form of eddy currents is necessarily, other conditions being the same, subtracted from energy of motion and, thus, the viscosity of flow will not rise for a given fluid and a given porous medium in a proportion corresponding to the pressure gradient. A certain test for ascertaining whether or not viscous flow is obtained consists of plotting on log paper the out-flow rate against a pressure differential, which should result in a straight line curve forming an angle of 45° with the XY axes; whereas, for turbulent flow, the flow velocities will rise at a slower rate, due to energy dissipation, than the pressure gradient and the line plotted from data accumulated where turbulent flow exists will dip toward the axis along which the pressure differentials are plotted. Thus, for a given porous medium, various rates of flow may be plotted with the pressure gradients necessary to produce them and the operator can immediately ascertain whether or not viscous flow exists. Several curves are shown in Figure 2, plotted from permea-

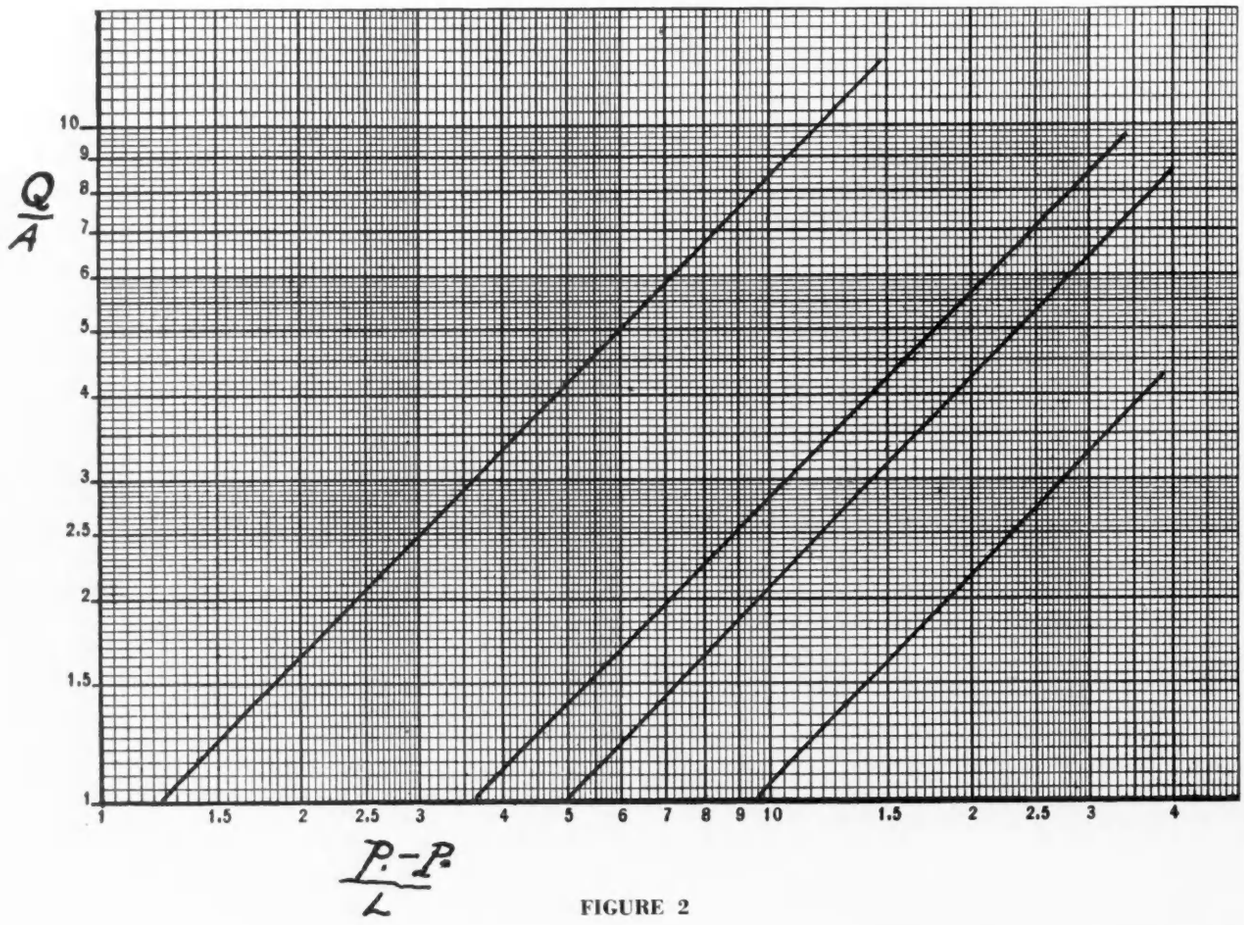



**FIGURE 2**

# POWER and SPEED

## FOR ANY WELL SERVICING JOB

No matter how tough the job or where it is located, there is an Allis-Chalmers high speed, rubber tired Winch Tractor, or Skid Winch for truck mounting, that will do the job quicker and more economically. These units save time to and from the well—due to their high speed the same crew will service more wells over a larger area—require less time to do any one of the many well servicing jobs—are instantly ready to go regardless of working conditions—and economical to operate.

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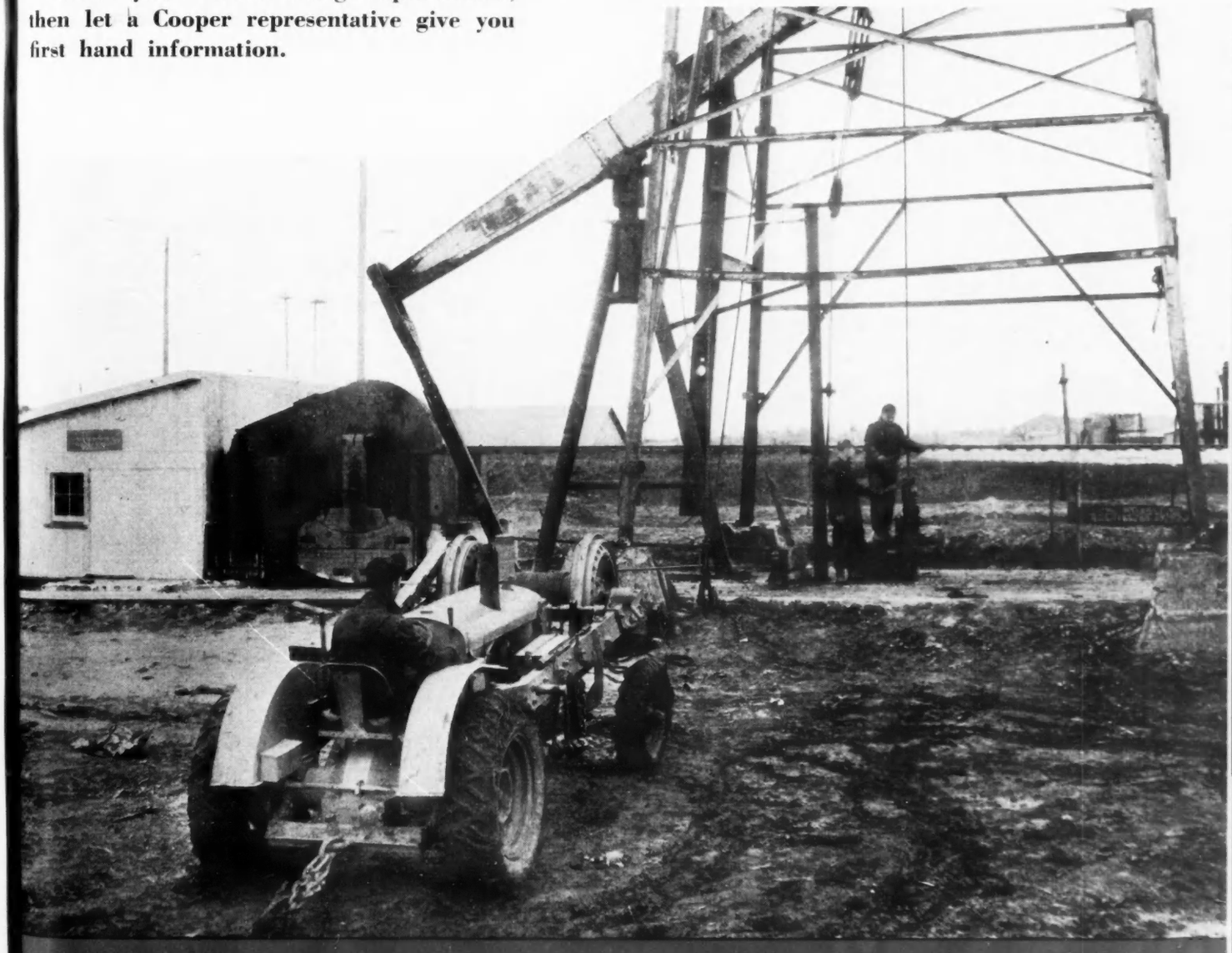
Three sizes of winch tractors—powered by heavy duty tractor motors. The UE or UM can be furnished with maximum road speeds of 15 or 30 m.p.h. Are equipped with single or double drums as desired. The W Model can be furnished with maximum road speed of 25 m.p.h. The UE Skid Winch is available in 3 drum sizes. The UM Skid Winch is available in 2 drum sizes.

All winch units have eight line speeds and drums are equipped with Cooper designed, air cooled brakes. All units may be had with telescope mast. Spudding equipment and rotary sprocket are available.



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bility measurements made on well cores showing viscous flow through the core.

### Effect of Temperature and Barometric Pressure on Permeability Determinations

It is the accepted practice in making permeability determinations to take into consideration the temperature and the barometric pressure, both of which factors affect the viscosity of the fluid and the volume of the fluid which has been used in making the permeability determinations. Such a practice is consistent with accurate procedures; however, it may be shown from the following data that such differences as will normally occur in a laboratory in a given location will vary the final result to such a small extent that, for practical purposes, such corrections may normally be ignored. Figures 3 and 4 are given to show the effects of these factors. In Figure 3, the change in viscosity of air which is the medium usually employed in permeability measurements, with atmospheric temperature variations. Figure 4 shows the effect of barometric pressure differences as affecting the density of air. Both effects would be minimized with water as a fluid, since the viscosity change of water with temperature is less than that of air and the volume change is practically zero. The calculation given below is for a representative core sample under atmospheric pressure and room temperature, showing the result obtained when the actual room temperature and actual barometric pressure are used and

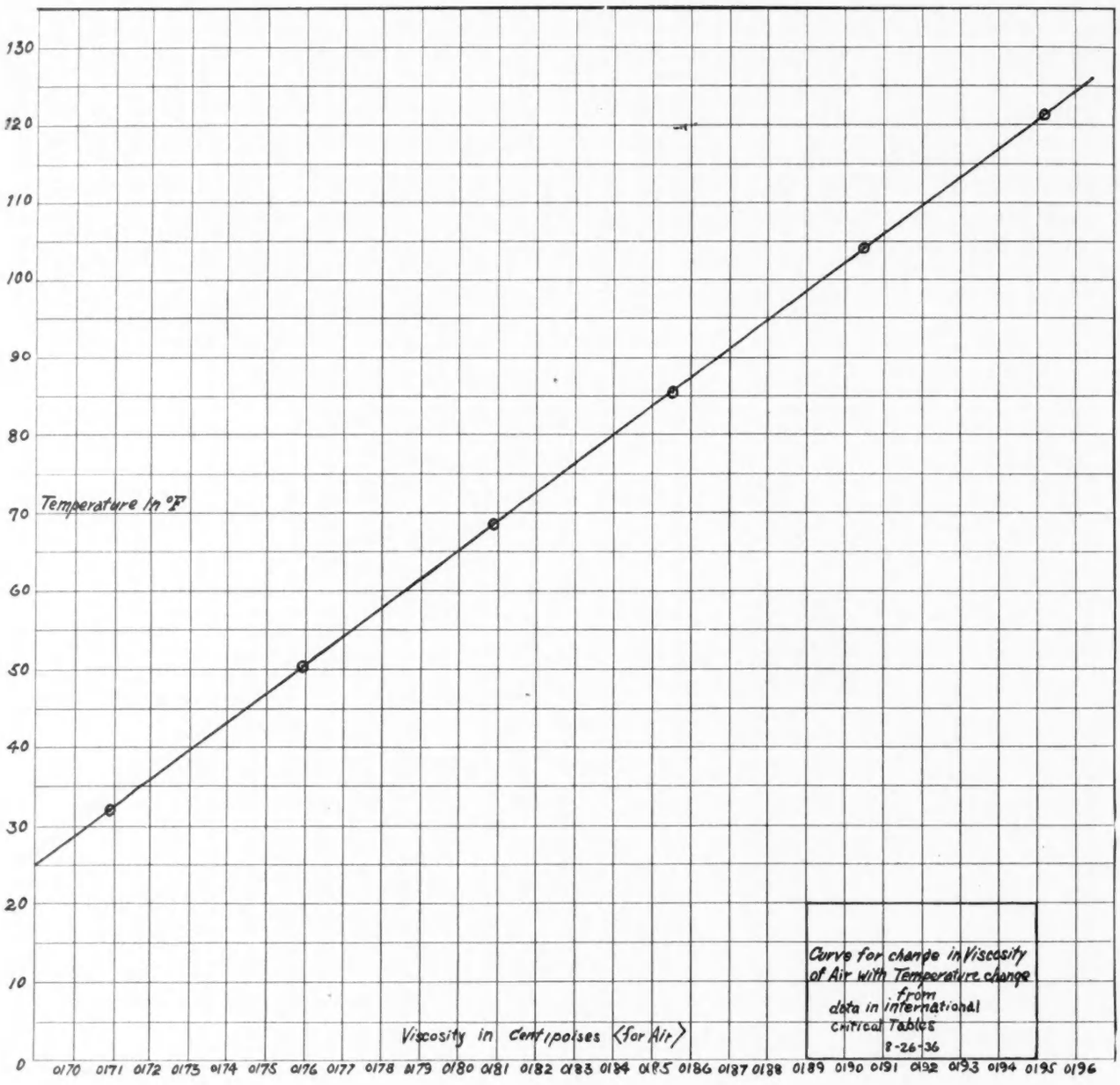


**FIGURE 3**

# the difference is FLEXIBILITY

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There is always the temptation when selecting wire rope to choose the one with fewer but heavier outer wires to gain longer life through better resistance to external abrasion. This is often an error especially when sheaves are small and loads light. Rope with fewer outer wires is stiffer. A rope without sufficient flexibility for its purpose will bulge away from the sheave thus reduce contact area and permit the rope to slide. The resulting increased wear defeats the objective of the selection. Every sheave and load requires a rope with a definite degree of flexibility. Tell us your conditions and we will gladly recommend a rope construction that will give the longest possible life.

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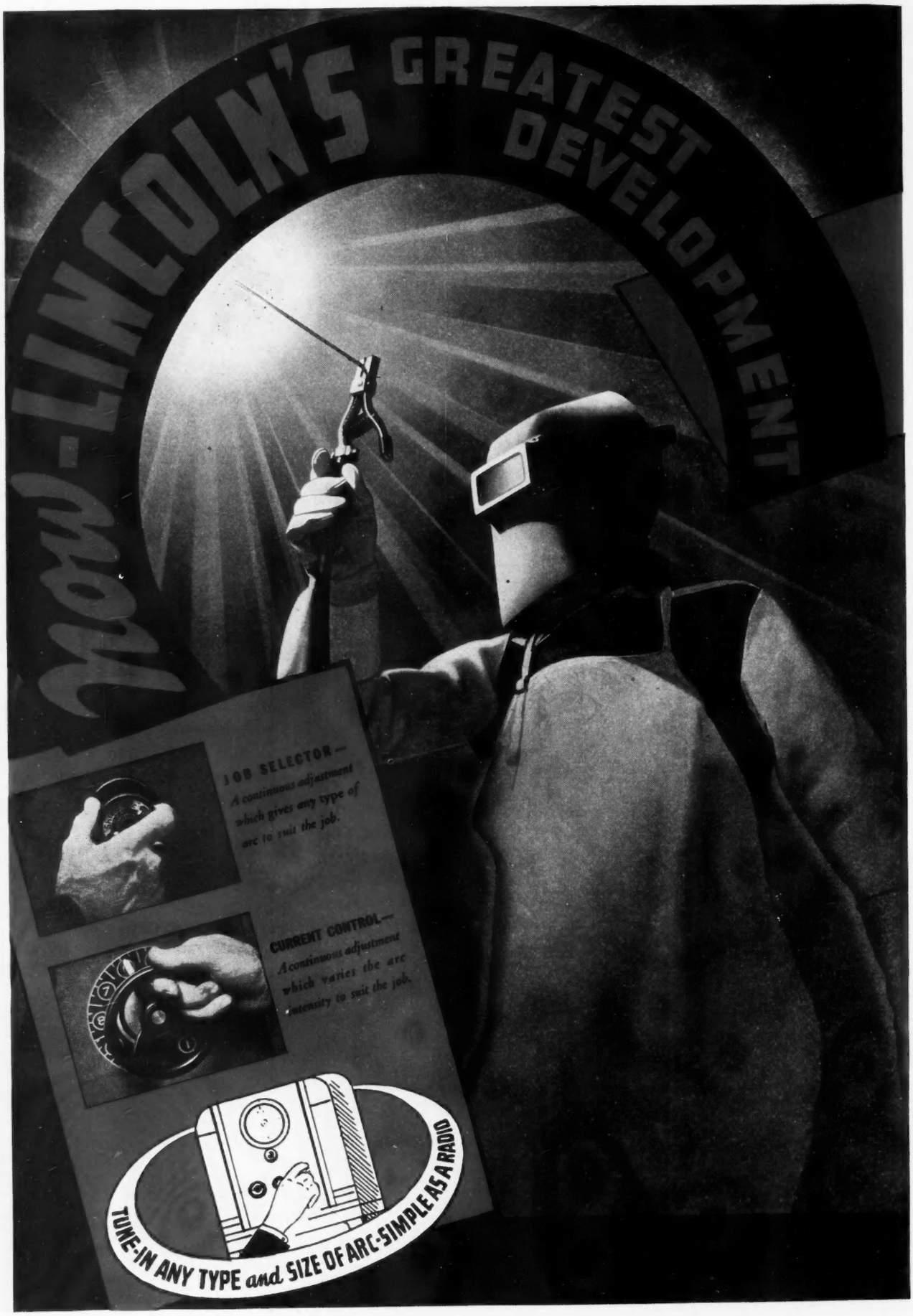
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showing a result when the barometric pressure at 760 mm and standard temperature is used:

| | |
|---|---|
| Core size | 2 x 2 x 2 cm |
| Temperature | 93° F. |
| Barometric pressure | 759.46 mm |
| $P_1$ | 700 mm |
| $P_2$ | 652 mm |
| Orifice No. 1 used | |
| Permeability from chart | 825 millidarcies |
| Permeability calculated | 849 millidarcies |
| Difference | 24 millidarcies |
| Percent error | $\frac{24}{849} = 2.83\%$ |

As 5% would not be a bad check this is quite satisfactory. The average would be less than 2%.

*This is the second of a series of six articles discussing the fundamentals of permeability measurements and the underlying mechanics of such determinations. Part 1 appeared in* THE OIL WEEKLY, *October 5, 1936, and Part 3 will be published next week, when the preparation of samples for permeability measurement will be discussed.*

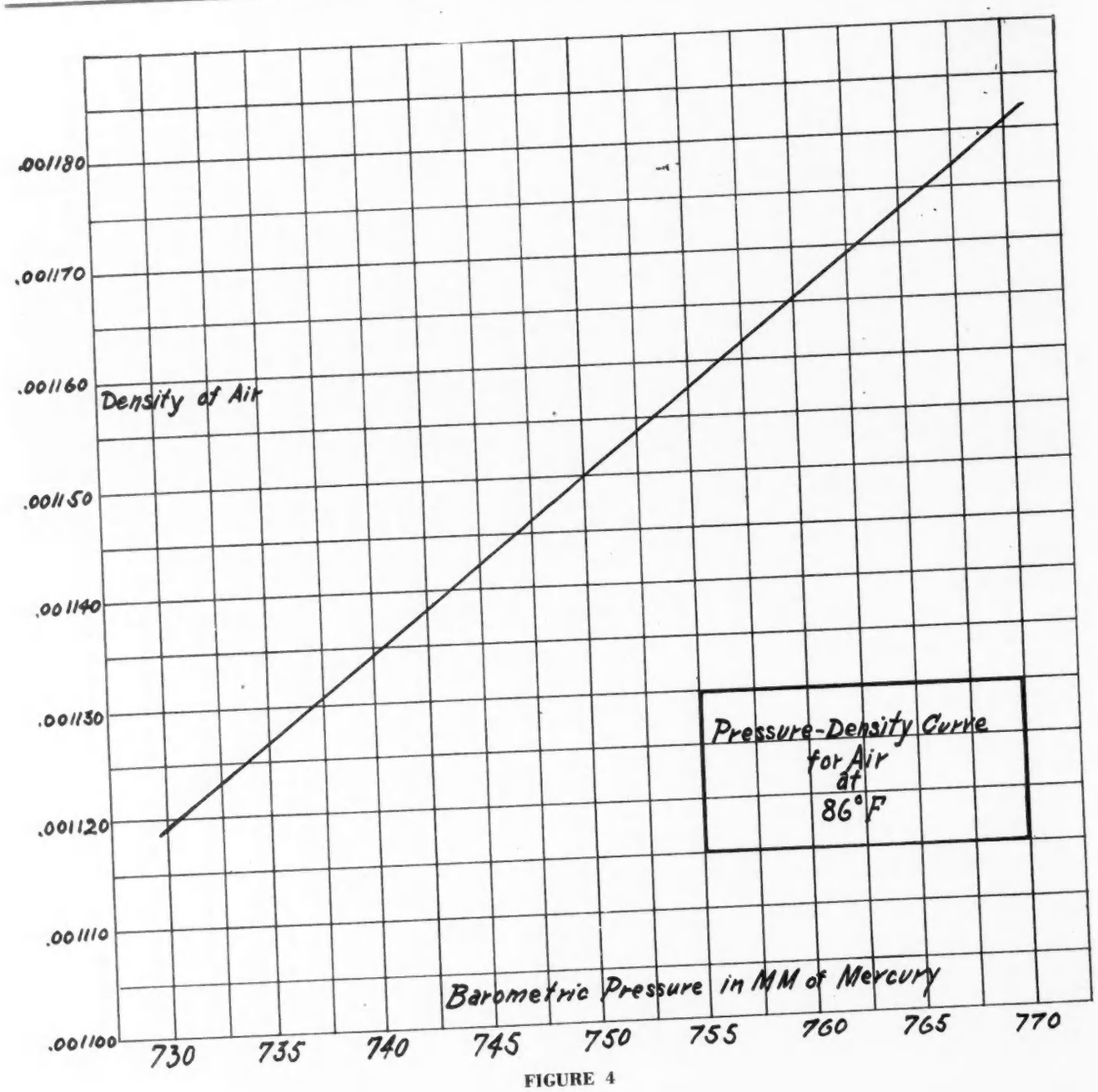
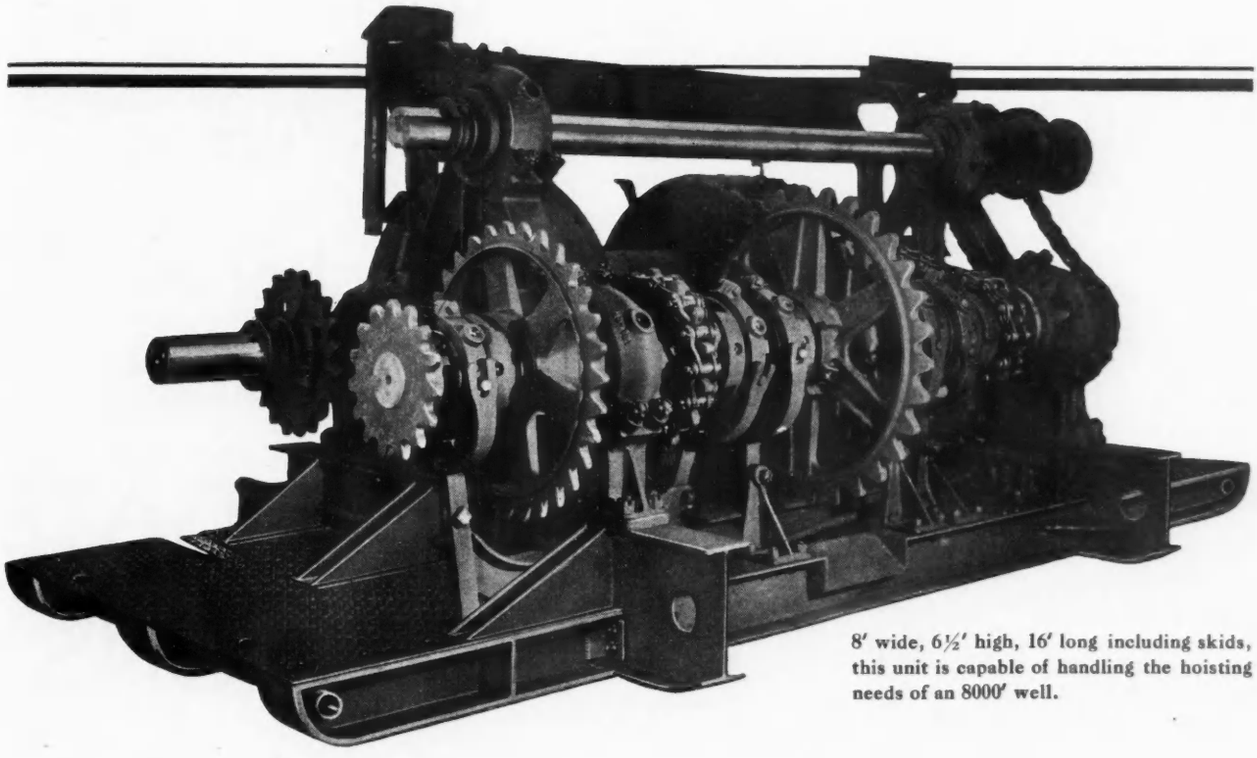



FIGURE 4

# IT'S STURDY-
# Depend on It



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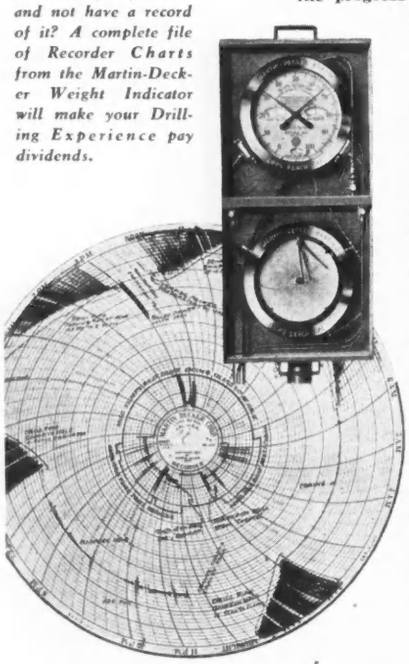

**Written records are equally vital to advancement and economy in oil production.**

**A complete record of the well you are drilling is your only real guide for the next one you drill.**

**With twist-offs, broken lines, crooked holes and drill stem failures ever present dangers, the driller of an oil well needs every aid to safe and sound drilling practice. A recorder on the weight indicator gives accurate, complete information on drilling weights at all times and provides a guide to better drilling each succeeding day.**

**The permanent chart provides a graphic record of operations which, when placed side by side with geologic data for comparison, brings out information of surprising value.**

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# *Future Supply of Oil in California*

By F. E. MINSHALL,
Assistant to Vice President
Continental Oil Company,
Los Angeles, Calif.

**ON the basis of an estimate ultimate production of 7,281,000,000 barrels for California, future supply of oil in the state approximates 2,716,000,000 barrels. To keep California supply and demand in balance it is estimated that reserves should be increased 2,000,000,000 barrels during the next five-year period.**

**This paper was delivered at the Pacific Coast Meeting of the Petroleum Division of the American Institute of Mining and Metallurgical Engineers held at Los Angeles, October 1 and 2, 1936.**

CALIFORNIA for more than 30 years has been one of the three leading oil producing states. Present daily crude oil production, under curtailment, of approximately 580,000 barrels comes from three general areas: Los Angeles basin, San Joaquin valley, and the Coastal region of Ventura and Santa Barbara Counties. This state produces approximately two thirds of its oil from eight large fields. California obtains a daily average production of 48 barrels of oil per producing well, whereas the average for the United States is but 8.15 barrels.

During the closing stages of the first half of 1936, discovery of the Section Ten oil field was made and credit goes solely to geophysical work. It is the first direct important discovery of oil in California which may be credited to geophysics.

This discovery may furnish the cue to the means of discovering several fields in California, particularly in the San Joaquin valley. It is a question, however, if returns from geophysical work will play as important a part in the future supply of oil in California as have our former types of prospecting.

## Exploration

Methods of prospecting have progressed in the oil industry due to invention or improvement in scientific means of locating and defining structure and to marked improvements in drilling equipment. Present day methods of prospecting include:

1. A detailed study of geology in an attempt to locate structural and stratigraphic conditions which would be favorable to the accumulation of oil.

2. Geophysical methods involving the use of the seismograph, torsion balance, magnetometer and electrical methods.

3. Use of micropaleontology as an aid in correlation.

There is still much to be learned in California in the application of geophysical methods.

**TABLE 1**

**California Total Production**

| YEAR | Yearly Totals (Barrels) | Daily Averages (Barrels) |
|---|---|---|
| 1929 | 292,036,911 | 800,101 |
| 1930 | 228,099,899 | 624,931 |
| 1931 | 188,829,032 | 517,340 |
| 1932 | 178,127,794 | 486,688 |
| 1933 | 173,083,319 | 474,201 |
| 1934 | 175,678,362 | 481,310 |
| 1935 | 207,899,520 | 569,587 |
| 1936, 1st half | 108,160,769 | 594,289 |

The principal improvements in drilling equipment are:

1. The dipmeter which determines the direction of formation dip in an uncased hole.

2. The geoanalyzer—an automatic electric logging device.

3. Stratigraph—an electrical logging device used in detecting shale bodies through the casing in boreholes.

4. Formation pressure recorder which records changes of formation pressures during formation or shut-off tests.

## Discoveries During First Half of 1936

Developments of special significance in California during the first half of 1936 were as follows:

1. The discovery of the Padre Canyon oil field, Ventura County, in March, by Continental Oil Company upon completion of Hobson 1, at 5501 feet, producing 570 barrels per day of 30.0° gravity.

2. Completion of the first large well in the Santa Maria valley field by Union Oil Company. This completion had an initial daily flow of 2380 barrels, 16.4 gravity, at 2576 feet.

3. The discovery by Shell Oil Company of the Ten Section field, Kern County, on June 2, 1936, with Stephens 1 producing 800 to 1000 barrels daily, 61 gravity, 15 million cubic feet of gas, at 7888 feet.

## Total Production By Years

For the purpose of comparison, California's total production for the year 1929 to the first half of 1936, inclusive, is listed in Table 1 in yearly totals and as daily averages.

Production of oil in California has been curtailed since 1929. The amount of curtailment below actual potential during the period has been conjectural. It is certain that the differences between actual potentials and the curtailed rate was much less than indi-

**TABLE 2**

**Production of Eight Leading California Fields in 1935**

| FIELD | Barrels |
|---|---|
| Kettleman Hills, North Dome | 27,569,892 |
| Midway-Sunset | 20,243,760 |
| Mountain View | 9,239,871 |
| Ventura Avenue | 10,986,096 |
| Dominguez | 7,913,492 |
| Huntington Beach | 15,185,343 |
| Long Beach | 26,487,238 |
| Santa Fe Springs | 16,163,733 |
| Total | 133,789,425 |
| All other Fields | 74,110,095 |
| Total California | 207,899,520 |

cated by the Umpire's figures. In other words potentials generally and in detail were fictitiously high. During 1936 some fields, notoriously producing wide open, could not make their allowables, let alone their potentials.

Overproduction problems in California appear to be solved unless a series of new pools are discovered in rapid succession.

The eight leading fields last year and their total production are given in Table 2.

### California Past Production and Reserves

This discussion cannot progress far without mentioning some figures.

Oil fields of California had produced 4,566,114,288 barrels of oil to July 1, 1936, an average production of 45,600 barrels per developed acre. At the same date, there were 149,459 acres of proved oil land in California, approximately two-thirds of which has been developed. Table 3 shows the relation between number producible wells, proved acreage, developed acreage, and acres per well in the three principal districts.

Interesting facts gathered from Table 3 are:

Los Angeles Basin fields are for comparison practically fully developed with an average of 2.9 developed acres per well.

San Joaquin Valley contains a large majority of undeveloped proved acreage.

Facts on "Future Supply of Oil in California" are gathered from all available sources and this mass of information is classified, correlated and used as a basis in making estimates of reserves. Such data on oil reserves is valuable if used correctly in making general forecasts for supply and demand and in comparing past production of various fields with future supply and demand and in comparing past production of various fields with future supply.

On the basis of an estimated ultimate production of 7,281,000,000 barrels for the state, future supply of oil in California approximates 2,716,000,000 barrels. Table 4 shows the relation between past production and future reserves in the three principal districts.

No estimates of reserves for the three discoveries made during the first half of 1936 are included in the above as very little is known as to the extent of these new fields.

Most of California's production and reserves are in the Pliocene and Miocene rocks of Tertiary age. Rocks older than Miocene supply very little of the production.

Table 5 and Chart 1 shows comparison of estimates of California oil reserves, annual past production, and cumulative production in tabulated and graphic form. The various estimates of ultimate production are shown by an X in a circle. In studying the attached chart it is noted that the various estimates of ultimate production occur at irregular intervals. Since 1923 these estimates have been increasing at approximately the same ratio as cumulative production. Whether the sameness of these increasing ratios is accidental or has been used as a safety factor is controversial. However, withdrawals from proven reserves have been greater than the amount added by the discovery of new fields during the last seven years.

Using 8,000,000,000 barrels for California's estimated ultimate production as a basis, a decline of estimated future reserves for the last 14 years has been calculated and plotted on the accompanying graph. In 1933, note that the two curves cumulative production and estimated future cross which means total past production and estimated future were approximately equal during the period 1932-1933.

Extension of the average trend of these curves has been done to illustrate what the picture ahead looks like without making any allowance for new supply.

### Conclusion

To keep California supply and demand in balance it is of vital importance that reserves be increased approximately 2,000,000,000 barrels to approach an ultimate reserve of 10,000,000,000 barrels. This increase should come during the next five year period. Where are the additional reserves going to come from?

The known oil providences of California, namely, Coastal area, San Joaquin Valley, and Los Angeles

**TABLE 3**

**Development Relationship Between the Three California Districts**

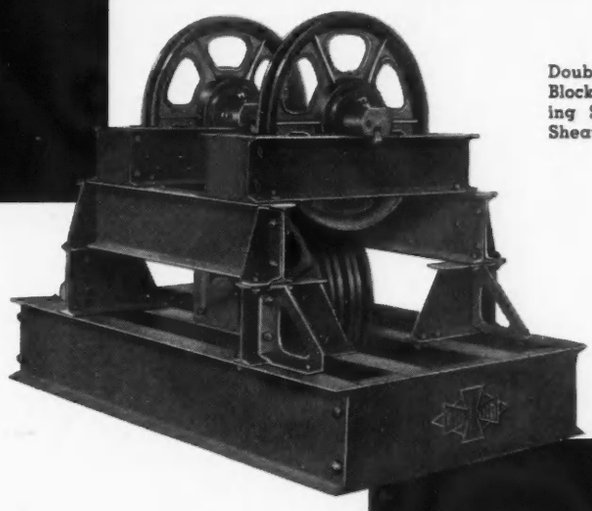
| | No. Prod. Wells | Proved Acreage | Devel. Acreage | Dev. Acres Per Well |
|---|---|---|---|---|
| Coastal | 1,676 | 28,470 | 18,600 | 11.1 |
| Los Angeles Basin | 5,631 | 18,870 | 16,454 | 2.9 |
| San Joaquin Valley | 9,530 | 102,119 | 65,481 | 6.9 |
| Total | 16,837 | 149,459 | 100,535 | 5.9 |

**TABLE 4**

**California Past Production and Reserves**

| | Past Prod. July 1, 1936 | Estimated Future Prod. | Estimated Ultimate Production. |
|---|---|---|---|
| Coastal (includes Miscellaneous) | 432,783,915 | 270,363,986 | 703,147,901 |
| Los Angeles Basin | 2,182,955,349 | 569,811,923 | 2,752,767,272 |
| San Joaquin Valley | 1,950,375,024 | 1,875,625,077 | 3,826,000,101 |
| Total | 4,566,114,288 | 2,715,800,986 | 7,281,915,274 |
| | **Past Prod. Per Proved Acre** | **Estimated Ultimate Per Proved Acre** | |
| Coastal | 15,200 | 25,000 | |
| Los Angeles Basin | 116,000 | 145,000 | |
| San Joaquin Valley | 19,100 | 37,500 | |
| Total | 30,600 | 49,000 | |

# Performance SPEED and RUGGEDNESS



Double Deck Type Crown Block with five 36½" Casing Sheaves and Catline Sheave.

Heavy Duty Streamline Traveling Blocks built in two sizes: 72" with five 36½" sheaves. Weight complete 8,030 lbs., and 86" with five 46" sheaves. Weight complete 9,300 lbs.

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**TABLE 5**

**Comparison of Estimates of California Oil Reserves—Annual Production and Cumulative Production**

| Date of Estimate | Estimate By | Estimates Ultimate Production, Proved Oil Land | Annual Production | Cumulative Production |
|---|---|---|---|---|
| 1908 | U. S. G. S., Day, Arnold | 5,000,000,000 | 48,307,000 | 250,495,000 |
| 1909 | | | 58,192,000 | 308,687,000 |
| 1910 | | | 77,698,000 | 386,385,000 |
| 1911 | | | 83,744,000 | 470,129,000 |
| 1912 | Requa, M. L., Bell, A. F. L. | 4,225,000,000 | 90,074,000 | 560,203,000 |
| 1913 | | | 97,867,000 | 658,070,000 |
| 1914 | | | 103,624,000 | 761,694,000 |
| 1915 | Arnold, Ralph | 3,041,274,000 | 89,567,000 | 851,261,000 |
| 1916 | U. S. G. S., U. S. B. M. Sen. Doc. No. 310 | 3,223,365,000 | 91,822,000 | 943,083,000 |
| 1917 | Bureau of Mines, Beal, C. H. | 3,300,000,000 | 97,268,000 | 1,040,351,000 |
| 1918 | White, David | 3,364,000,000 | 101,638,000 | 1,141,989,000 |
| 1919 | | | 101,222,000 | 1,243,211,000 |
| 1920 | | | 105,721,000 | 1,348,932,000 |
| 7-1-21 | Cal. Com. A. A. P. G. | 3,095,000,000 | 114,850,000 | 1,463,782,000 |
| | U. S. G. S. | 3,314,000,000 | | |
| 1922 | | | 139,627,000 | 1,603,409,000 |
| 7-1-23 | Collom, R. E., and Barnes, R. M. | 3,544,000,000 | 263,729,000 | 1,867,138,000 |
| 1924 | | | 230,063,000 | 2,097,201,000 |
| 1925 | | | 230,147,000 | 2,327,348,000 |
| 1926 | Heller, A. H. | 4,307,064,000 | 224,117,000 | 2,551,465,000 |
| 1927 | | | 230,751,000 | 2,782,216,000 |
| 1928 | | *5,414,000,000 | 231,783,000 | 3,014,199,000 |
| 1929 | | | 292,037,000 | 3,306,236,000 |
| 1930 | | | 228,100,000 | 3,534,336,000 |
| 1931 | | | 188,829,000 | 3,723,165,000 |
| 1932 | | | 178,128,000 | 3,901,293,000 |
| 1933 | | | 173,083,000 | 4,074,376,000 |
| 7-1-34 | Stockman, L. P. | 8,448,700,000 | 175,678,000 | 4,250,054,000 |
| | Collom, R. E. | 7,466,400,000 | | |
| 1935 | A. A. P. G. Comm. | 7,958,000,000 | 207,900,000 | 4,457,954,000 |
| | Wilhelm, V. H. | 7,182,000,000 | | |
| 7-1-36 | | | †216,000,000 | †4,673,000,000 |

*Kettleman Hills, Santa Fe Springs, Buckbee and Nordstrom Zones, Elwood (Vaquerous Zone). †Estimates.

Basin, where these future reserves are most likely to be found, more than probably will not be enlarged.

Approximately all California's future supply will come from some combination of the following:

1. Discovery of deeper sands in known proved fields.

2. Redrilling of wells in old fields.

3. Drilling of deep tests in numerous plays, which have already been tested to depths of 5000 feet or less, to depths of 10,000 to 12,000 feet.

4. Buried structures which will be found by geophysics.

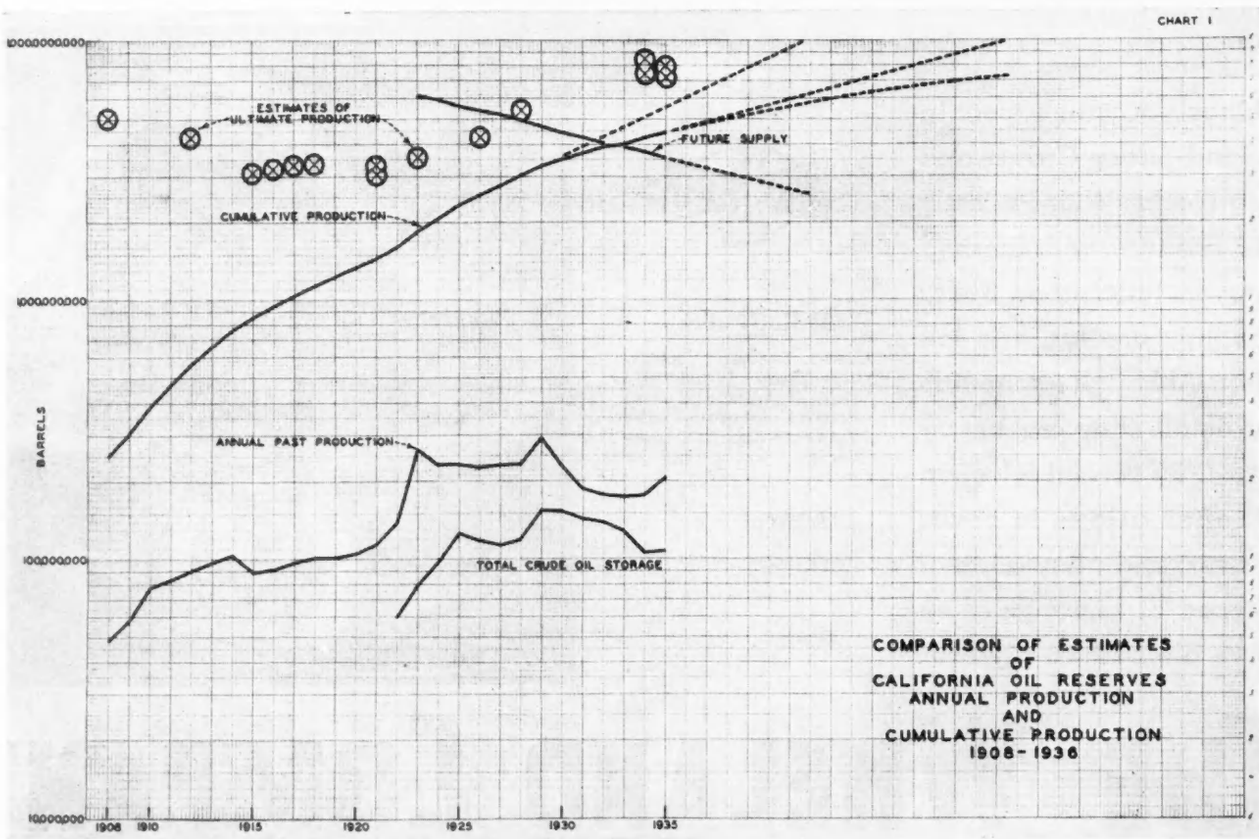


**CHART 1**

# STURDY for Longer Life

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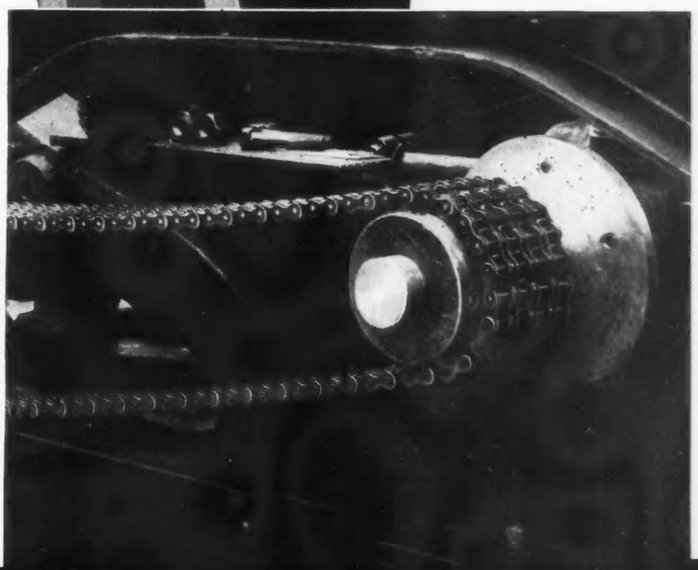
*Ask the Driller .. He Knows*



Typical Baldwin-Duckworth multiple strand standard roller chain installation.

# DON'T GRUMBLE ABOUT RISING PRICES

## *Stop them*

**During last two years... Rent up 15%... Food up 37%... Clothes up 22%—WHY?**

Why do prices go up?

Here's one reason everybody can understand. Taxes are added into your rent. They're a big slice of your gas and electric bill. Gasoline averages 40% taxes. 53 taxes go into a loaf of bread. Everything you buy is a tax collector. Therefore prices go up when taxes go up.

*Government spending now equals almost 1/3 of our national income!*

Many government expenses are worthwhile. But probably a third of what national, state and local governments spend is wasted. That's five billion dollars, $166.00 for each family in America. If we don't *do something*, where will the waste stop? Ten billions? Twenty billions?

*Don't blame the landlord and the grocer for the high cost of living. It's your own fault.* Only you can stop government waste and promote economical, efficient government. This is how to do it; *take these two steps now*:

1. **Make this resolution: "I will support no candidate who cannot prove that he has used all his influence to reduce government expenditures."**
2. **Write three letters. One to your Mayor, or County Clerk, one to your Governor, one to the President. Say: *"I want the cost of government reduced,"* and sign your name.**

There are forty millions of us, working to pay for local, state and federal government. It's up to us to insist that the government watch its expenses as carefully as we do ours. After all, it's our money the tax wasters are spending.

**DO YOUR PART TO BRING BACK ECONOMY IN GOVERNMENT**

**Register . . . Vote . . . Replace the wasters with lawmakers who will SAVE public money.**

**Space for this message is provided by THE OIL WEEKLY, because of a firm conviction that a reduced cost of government is vital to the interests of all its readers.**

**THE accompanying article, which was presented before the Pacific Coast meeting of the Petroleum Division of the American Petroleum Institute of Mining and Metallurgical Engineers, Los Angeles, October 1 and 2, 1936, describes the cooperative development plan being used at Buena Vista Hills. The program for this field is different from other cooperative plans in that it permits each operator to drill and produce his own wells.**

# *Cooperative Development*

## PLAN FOR BUENA VISTA HILLS OIL AND GAS FIELD

By C. M. NICKERSON,
Senior petroleum engineer, office of inspector, Naval Petroleum Reserves in California.

THE possibility of deeper production in the Buena Vista Hills was first considered in 1933. At that time, however, the heavy state curtailment program served to deter any operator from drilling test wells, which, if successful, might upset the proration schedules. Because most of the acreage was held by several major operators and the balance by substantial independents the adoption of a plan of cooperative development was considered desirable. Such a plan was formulated for the development of any deeper oil and gas horizons which may be found to exist. This plan was signed by the Secretaries of the Navy and of the Interior on behalf of the United States on July 9, 1936. Unlike most unit plans, the present cooperative development plan permits each operator to drill and produce his own wells.

For the purpose of this plan the Buena Vista Hills field is divided into two pools. The present production is classed as the "Old Pool", while any future production below a certain marker which roughly coincides with the bottom of the Santa Margarita formation is included in the "Pool" to which the provisions particularly apply.

Naval Petroleum Reserve No. 2 lies within the area and constitutes the major portion of the Federal leases subject to the plan. There are 39,040 acres and twenty-seven operators within the area. Twenty-six operators controlling 99.5 percent of the acreage have signed the agreement.

### Geology of Buena Vista Hills

The Buena Vista Hills consist of a low range in the southern portion of the San Joaquin Valley, and are roughly parallel to the adjacent Temblor range to the south. The Elk Hills oil field parallels the Buena Vista Hills a few miles to the north.

The sub-surface structure is a re-entrant anticline upon the major Midway-Sunset monocline. This anticline is divided into two minor structures, the United anticline in the western half of the field and the Honolulu anticline in the eastern half. Production is almost continuous over these anticlines.

The present oil producing measures are found in the Etchegoin formation of Pliocene age, with a dry gas zone of limited extent overlying the crests of the United and Honolulu anticlines. The Scales and sub-Mulinia oil zones are the source of the major portion of the oil produced in this field at the present time, with some production from the Santa Margarita formation on the south flank.

In the lower half of the Monterey group lenticular oil sand bodies may exist. Geologists estimate that oil measures may exist in the Valvulineria robusta zone, middle Miocene age, at a depth of about 7500 feet; at the base of the Temblor formation, lower Miocene age, at a depth of about 9000 feet; and at the base of the Vaqueros formation, lower Miocene age, which is believed to be nearly 10,000 feet from the surface at the crest of the structure. The Oligocene and Eocene age formations may contain oil and gas measures. The depths to these formations may be well below 10,000 feet.

### Acreage Within Buena Vista Hills

There are 39,040 acres of land within the area included in the cooperative development plan for the Buena Vista Hills oil and gas field, see Figure 1. Of this acreage, 24,640 acres, or 63.1 percent are owned in fee, 10,800 acres, or 27.7 percent, are U. S. Navy fee or leased lands, and 3600 acres, or 9.2 percent are under lease from the Department of the Interior.

The following table shows the distribution of this area by operators, excluding holdings of less than 1 percent:

| Operator | Acres | Percent |
|---|---|---|
| Standard Oil Co. of California | 20,550 | 52.64 |
| Honolulu Oil Corp., Ltd. | 4,120 | 10.55 |
| North American Oil Cons. | 3,240 | 8.30 |
| Murvale Oil Company | 1,980 | 5.07 |
| Associated Oil Company | 1,280 | 3.28 |
| U. S. Navy | 1,220 | 3.13 |
| General Petroleum Corporation | 920 | 2.36 |
| Union Oil Company | 800 | 2.04 |

| Operator | Acres | Percent |
|---|---|---|
| Claude R. Blodgett, Trustee..... | 640 | 1.64 |
| Midway Basin Oil Company..... | 640 | 1.64 |
| The Texas Company..... | 580 | 1.49 |
| Maricopa Investment Company.. | 500 | 1.28 |
| Rio Bravo Pioneer Oil Company. | 400 | 1.03 |
| The United Oil Company..... | 400 | 1.03 |
| Others, 13 in number..... | 1,770 | 4.53 |
| | 39,040 | 100.00 |

The above table is based on an ideal section of 640 acres each. As the need arises the actual acreage of each signatory party will be determined. The cooperative plan provides that as the field is developed and the limits of production are determined, owners of unproductive acreage will be eliminated from exercising a vote in the determination of problems arising in the field. The adoption of any uniform drilling or producing practice requires the affirmative vote of the operators holding 80 percent of the acreage within the area.

### Spacing of Wells

Under the cooperative plan of development of the deeper zones in the Buena Vista Hills oil field operating units of 160 acres each, or one quarter of a section, were established. The first wells to be drilled under this plan are called "primary well," and are located in the center of each quarter section. The plan contemplates the drilling of the primary wells first on each operating unit. This gives one half a mile spacing between the first wells. Such wide spacing in an even pattern over the productive portions of the structure automatically eliminates unnecessary competition, practically all drainage considerations, and other troublesome factors involved in the completion of the early wells in a field if located in the corner of the section or lease.

After the primary wells are completed on an operating unit of 160 acres, the "secondary wells" may be drilled. These wells are located due north and south, or due east and west of the primary wells. It is obvious that the only offset required by the owners of the adjacent operating unit will be one secondary well on their own unit, in lieu of the three offsets required if a well were completed in the corner of the section or lease.

After all primary and secondary wells are completed the operator may proceed with the drilling of the "tertiary wells," which are located in the four corners of the operating unit.

These wells are to be located 440 feet from the quarter section lines, with 880 feet between the wells. Such spacing gives a theoretical drainage area of 17.8 acres. The present spacing in the Buena Vista Hills is based on a 7.8 acres spacing. If subsequent developments prove that closer spacing of wells is necessary, by agreement of the signatory parties holding 80 percent of the acreage, the spacing program may be modified.

The above drilling program and spacing of wells will be found entirely satisfactory for those operating units which are located on the higher portions of the structure. It is possible that certain of the operating units are so located near the edge of the field that the primary location would not be productive of oil if drilled. In that event, the operator may select a secondary location to be drilled in lieu of the primary location, providing that the operators of 80 percent of the acreage agree that the primary location is outside of the productive limits. In the event that all secondary locations on the operating unit are considered unproductive, then by the same procedure a tertiary location may be selected for the first well.

The plan also provides that, notwithstanding the requirements of the above drilling program, an operator may drill any and all wells on the exterior boundaries of the pool which may become necessary to prevent drainage of his operating unit by operations on lands not subject to the cooperative plan.

The above drilling program applies with equal force to each zone discovered to be productive within the limits of the pool. If two separate and distinct zones are located each operating unit may have 18 wells drilled thereon, unless further agreements are made to permit of deepening certain of the first nine wells, or other equitable procedure adopted.

It is quite clearly stated in the cooperative plan itself that nothing therein obligates any operator of an operating unit to drill any well or wells within the pool. Terms of the several leases and good business judgment are considered sufficient to govern the drilling of wells on each operating unit to protect the various interests involved.

### Uniform Producing Practices

In order that no operating unit may be disproportionately drained of its oil and gas content by operations on adjacent operating units, the plan provides that by agreement of operators holding 80 percent of the acreage within the pool uniform producing practices shall be adopted which will be binding upon all of the signatory parties. This section of the cooperative plan is intended to prevent one operator from producing wells with an excessive gas-oil ratio or at such a rate that one may recover more than his fair share of the oil and gas content lying thereunder. It is also aimed to control the producing methods at each well in order that the maximum ultimate recovery may be obtained by each unit.

To assist all operators in the proper solution of practices or problems arising from the operation of the plan, if the operators of 80 percent of the acreage within the pool so request, an engineer or engineering staff may be employed to study such problems and report the findings to the operators for their information and guidance. The cost of such engineering advice and reports will be met by assessment of all operators in proportion to their respective oil production from the pool for the month preceding that in which such report is rendered. After consideration of the report by the operator's committee, and further discussion by all operators concerned, the solution of the problem by vote of the operators of 80 percent of the acreage of the pool shall be binding upon all signatory parties.

The cooperative plan provides that the vote of operators controlling 80 percent of the acreage shall govern all drilling and producing practices in the pool, and that the cost of any engineering studies or reports shall be defrayed by an assessment on the basis of the previous month's production rather than on an acreage basis.

### Unitization of Operating Units

The spacing of the wells, and the order of drilling the wells was based on the assumption that each 160 acres, or one quarter section, constituted an operating unit under one ownership or management, and also for the reason that by this spacing the fewest number of wells fell on property lines, and that the fewest number of sub-unit plans would be required. It was considered that 160 acres was the smallest practical operating unit. Over a dozen of the quarter sections of land contain divided ownerships.

The plan for cooperative development provides that, where the ownerships are divided and before any wells

are drilled to the pool, which underlies the present productive zones of the "Old Pool," each of these quarter sections will be unitized. Unit plans for such of the operating units which are held in divided ownerships under a government oil and gas lease have been consummated. Where only fee holdings are involved, it is understood that unit plans are pending, and will, no doubt, be adopted before any deep drilling is undertaken.

These unit plans for operating units of one quarter section in area have the following common provisions. They provide that one of the two parties be the operator of all line wells drilled on the common property line. The second party is called the associate. Wells drilled on common property line are called joint wells. Where no wells fall on the common property line, one company is appointed the operator to drill and produce all the wells on the unit. With this exception and for other than joint wells on the common property line, each operator may drill and produce his own wells on the unit. The operator is required to submit an estimate of the cost of drilling the joint wells, and if this figure is not satisfactory to the associate, then the associate may submit an estimate of the drilling cost. If a mutually satisfactory agreement as to costs cannot be adopted by the two parties, bids may be received from drilling contractors, and a contract awarded. These sub-unit plans contain sufficient provisions to guarantee that the joint wells will be drilled at a mutually satisfactory cost. After completion of the joint wells the operator, for a stated period of time, usually for five years, will continue to operate the well. The direct cost of drilling and operation of these joint wells is prorated between the two parties, plus an allowance to the operator of a definite sum per month to cover superintendence, geological, and engineering expenses, and other such items ordinarily included in "overhead." After the expiration of the stated period, the associate may take over the operation of the well, and thereafter the two parties will alternate in operating the joint wells. The drilling and production costs of the joint wells, and the petroleum products therefrom, are shared equally by the two parties, if the acreage involved is owned equally, otherwise on an acreage basis. For the purpose of computing the government oil royalties where they involve the number of wells producing on the lease, such joint wells located on the common property line are counted as one half a well for each lessee.

Space does not permit the setting forth of the other details of each unit plan. In general, the plans are so drawn that the wells are drilled and produced by mutual consent at a cost satisfactory to each party. The agreements between the two parties may be changed at any time, providing that the requirements of the cooperative development plan for the field as a whole are not violated.

### Protection Against Drainage by Outside Interests

In any plan for cooperative development of an oil bearing structure a real effort is made to include within the area subject to the plan all possible productive parcels of land. Also, all owners of lands within the probable productive area are urged to sign the agreement. However, it frequently happens that all the productive acreage is not included within the area of the unit plan, or all owners of the productive acreage do not deem it advisable to join in the plan.

When this condition exists, there is always the threat of drainage of these operating units within the defined area by operations on adjacent lands which are not conducted in accordance with the provisions of the cooperative plan.

To provide for this contingency, there is a provision in the cooperative development plan for this field which permits any operator to drill such wells as may be necessary at any time and in any place in order to prevent drainage of the operating unit which he controls by operations on lands adjacent thereto but not subject to the requirements of the cooperative plan.

Inasmuch as the operators of over 99 percent of the acreage within the area of the field have adopted the cooperative development plan, this contingency is not as alarming as it would first appear.

### Modification of Plan by Consent of Operators

As development of the field progresses, it is conceivable that engineering practices or economic conditions may warrant changes in the provisions of the cooperative development plan. Such changes may be adopted by the consent of the operators of 80 percent of the area subject to the plan, and when so adopted are binding upon all of the signatory parties.

### Curtailment of Production

The cooperative development plan provides for the restrictions of the quantity and rate of production of oil, gas, and gasoline from lands within the area by such method as may be voluntarily assumed by the operators of 80 percent or more of the area. Thus, curtailment of oil production, and incidentally of gas, through affirmative action by the operators of 80 percent of the area will become binding upon all of the signatory parties.

### Consent of Royalty Owners

In any oil field it is common to find that the operators of certain parcels of land have supplementary agreements with royalty owners, excepting from this group the United States as lessor, which agreements conflict with the provisions of the cooperative development plan. In order to modify these prior agreements, it was necessary to obtain the consent of the royalty owners to the execution of the plan by the operators and to agree that the development of the area in the manner set forth in the plan shall be considered as full performance of all obligations for development and operation of certain parcels formerly required under the original agreement with the royalty owners. These consents of royalty owners have been obtained in practically all instances.

The modification of the original royalty owner agreements, as set forth above, eliminates any conflict between lease requirements, royalty owner agreements, intra-company desires and needs, and curtailment of production. The several provisions of these various factors are subordinated to the cooperative development plan, the workings of which are carried out by agreement of the operators of 80 percent of the area subject to the plan.

### Plan-Agreement Between United States and Its Lessees

Approximately 37 percent of the area subject to the cooperative development plan for this field is controlled by the United States. Excepting the 3 percent of the area owned by the U. S. Navy and not leased, 34 percent is under lease to various operators. These leases from the Navy Department and from the Department of the Interior were granted about 1922 for a period

of 20 years, with certain provisions for renewal for successive 10-year periods.

Statutory authority contained in the Acts of Congress approved March 4, 1931, and August 21, 1935, which Acts amended the Oil and Gas Leasing Act of February 25, 1920, permitted the Secretaries of the Navy and Interior to enter into unit plans involving the cooperative development of an oil and gas bearing structure.

These Acts permitted the respective secretaries to modify the drilling and producing requirements, the terms, and the royalty provisions of the leases heretofore issued under the Act of February 25, 1920.

After the cooperative development plan for the Buena Vista Hills field had been formulated, it was necessary to modify the provisions of the existing federal leases to conform to the requirements of the basis plan. Under the plan-agreement all leases from the United States are extended for the life of the field, providing that the lands under lease continue to be subject to the plan. The royalty scales for oil, gas, and gasoline produced and sold from the "Old Pool" remain unchanged. For production from the new pool new royalty scales have been adopted which, in most cases are somewhat lower than those in effect for the old pool for wells below approximately 1700 barrels per day in size. For larger wells the new scale is slightly higher. Space does not permit a detailed analysis of the new royalty scales.

The agreement between the United States and its lessees provide that the operating regulations approved July 1, 1926, as amended prior to July 1, 1935, shall be effective for these leases in lieu of all other operating regulations promulgated by the government.

The secretary of the department having jurisdiction over the lands of the United States is vested with the authority to control the rate of development and of production from these lands in order that the area may enjoy its fair and proper share of the allowable production for the state of California under any system of voluntary curtailment generally recognized by the operators in this field, or by any system authorized by law.

The United States continues to have the right to take its royalties in kind whenever it may so elect.

The lessees of the United States agree to protect the government lands from loss of royalty through drainage within and without the exterior boundaries of the area by either drilling and producing the necessary offset wells, or by paying compensatory royalty in lieu thereof.

The plan-agreement with the United States provides that, if for any reason it is terminated with respect to any government lease, the original terms and conditions, including rents and royalties, of the lease shall become effective. If termination occurs prior to the date of expiration of the lease, it shall be renewed as provided in Section 17 of the Act of February 25, 1920. If any lands leased from the United States are excluded from the pool, as provided for in the cooperative development plan, then such lands revert to the status of the lands in the old pool.

The agreement provides that the United States will not lease or operate any lands it may own, except subject to the terms and conditions of the plan-agreement.

Provision is made in the plan-agreement to amplify, change, or modify the terms of the agreement with the written consent of the operators of 80 percent of the area of the leases included in the plan-agreement, with the written approval of the respective secretaries.

### Governmental Approval

The cooperative plan of development for this field as finally drafted is dated October 1, 1935. The several agreements between the lessees of certain operating units of one quarter section each, where the ownership was divided were executed early in 1936. On April 30, 1936, the Oil and Gas Supervisor for the state of California, as required by state law, approved the plan-agreement for cooperative development, and determined that it was in the interest of the protection of oil and gas from unreasonable waste that the plan-agreement be entered into by the signatory parties thereto.

On July 6, 1936, the President of the United States consented to the execution of the plan-agreement by the Secretary of the Navy. Under present laws this consent was required for any lands within the Naval Petroleum Reserve. On July 9, 1936, the plan-agreement was executed on behalf of the United States by the Secretaries of the Navy and of the Interior, thus completing the adoption of the plan by all interested parties.

### Future Possibilities Under the Cooperative Plan

The upper sands of the old pool are now well-depleted. Sufficient data on the gas repressuring and recycling program being carried on there now are available to indicate that these upper sands may be readily repressured with dry gas, or used as storage space for volumes of gas above market demands. From an engineering point of view an ideal situation exists whereby substantial oil production with high gas pressures may be obtained from the deeper zones during the summer months of increased market demands for oil, while the high pressure gas for which there is but a small summer market, after being treated for its gasoline content, may be stored in the depleted upper oil measures. During the winter months when the gas market is able to absorb larger volumes of gas, such stored gas may be withdrawn from the upper zone, treated for its gasoline content, and sold to the public utilities.

The elimination of unnecessary competition and the fostering of cooperative effort by the plan indicate that there is every reason to believe that the deeper zones in this field will be developed in the most economical manner and that duplication of facilities will be kept to the minimum.

# *Vacuum Grouting of Engine Bases*

By ELTON STERRETT, Engineer

WHEN the bed castings of a battery of four-cylinder vertical Diesels powering a main line pump station began to give trouble by cracking through between No. 1 and No. 2 cylinders, everything in turn was blamed before the real cause of the casting failure was determined.

In each instance the defect first made itself known through oil working out at the line between the engine base and upper grout surface, appearing first as a slight discoloration, and increasing until there was enough of a trickle of oil flowing to defy the efforts of the oilers to keep it wiped up.

Careful inspection of an engine interior, made after draining and thoroughly wiping out the base, failed to expose the crack; but when the flywheel was jacked up and then suddenly lowered, with No. 1 crank thrown at 90 degrees either way from vertical, a slight motion of the shaft bearing between the first two throws was evident—proof that the base had become cracked at that point. To establish this crack as the cause of the oil leak, a quarter-inch drill was run through the base, and a wire thrust into the space between base and grout. The wire came out covered with oil, proving that the pockets below the base casting were filled with lubricant, and confirming the evidence of the seep.

The crack was then opened with air hammer and diamond point chisel and then filled in by welding, after which carefully formed patch plates were bolted both to the crankcase and to the base or pedestal carrying the crankshaft bearing.

When a similar unit, moved from a dismantled station, was to be erected in the station, close supervision of the levelling and grouting operations brought out that, although the edges of the engine base were firmly supported, that portion of the base carrying the crankshaft bearing blocks was either poorly or not at all reached by the sluggish grout.

By reference to the sketch, in which the foundation line "F" and the grout line "G" show a much greater gap, proportionally, than was actually met in practice, it is apparent that the grout must be worked through a constricted crevice between foundation and engine base, traverse a wide space as at "$P_1$" and "$P_2$," and then again flow into and fill a constricted spot to give proper support to the center of the base.

Convinced that the haphazard method of attempting to work grout under this central portion with paddles and welding rods would not prove a firm footing, the engineer in charge took a short length of ⅜-inch pipe, bent one end at right angles to the rest, inserted this bent end into the pocket at "$P_1$", and ran hose from the end of this pipe to the intake of the compressor used to provide starting air.

Then, filling the form to the top with grout, he started the compressor, exhausting the air from pocket "$P_1$" and, through the space under the pedestal "B," also reducing below atmospheric the pressure in "$P_2$." That the air trapped in these pockets tended to hold out the grout was evident as soon as the compressor was started, for the grout quickly sank to the engine base level, and admitted air.

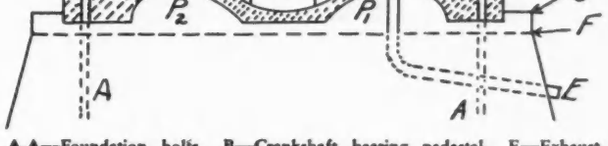
By throttling the compressor intake, it was possible to regulate the differential between atmospheric and pocket pressures and thus to induce a flow of grout into the space below the engine base until it all but filled the pocket containing the pipe.

To guard against the possibility of drawing enough grout into the pocket to fill the hose and damage the compressor, a short section of gauge glass was inserted between hose clamps, and a check on completion thus obtained.

Testing again with a drill from within the engine base after the grout had set, it was found that the grout was more than an inch higher inside the pocket than on the trowelled finish outside—proof that there had been hydrostatic head enough while the cement was setting to insure a compact support for that portion of the casting carrying the crankcase.

So successful was the experiment that a subsequent foundation for this type of engine was cast with an exhaust pipe, as at "E" in the sketch, incorporated in the concrete and of the proper height to clear the curve of the engine base, yet afford the maximum grouting space.

Where an air compressor is not available for such a job, an ejector can be attached to the outer end of the pipe "E," and sufficient vacuum obtained with a flow of water through the ejector to obtain the same effect. This exhaust pipe method of assuring grout penetration is applicable to the setting of all heavy machinery which, from its nature or work, can not or does not have adequate grouting air vents incorporated in its structure.




A-A—Foundation bolts. B—Crankshaft bearing pedestal. E—Exhaust pipe. F—Foundation line. G—Final grout line. $P_1$-$P_2$—Pockets under engine base.

## SMALL GUN IS BEING USED FOR

# *Cleaning Screens*

## WITHOUT REMOVING FROM HOLE

OIL screens clogged with corrosive materials, sand, silt, paraffin, and salts of sodium or calcium are now being cleaned in the well. This is done by shooting a piston through a gun of 1⅛-inch bore, filled with water. This forces the water through the screen washing away all clogging material. The screen is cleaned in the well, avoiding delay and danger of collapse or fishing jobs by its removal.

Screen or slotted pipe has been used in fields making sand since oil was first discovered. The first screens were made by wrapping a piece of wire screen around a perforated pipe. Since then various ideas have been developed insuring an efficient separation of the sand from the gas and oil.

When an oil well starts to produce, oil, gas, water and sand all seek the line of least pressure and tend to come out of the hole at one time. The gas is the propelling force, the oil the carrier and the sand the destructive agent. The gas is the governing influence and changes the characteristics of the fluids passing through the screen. It makes a formerly quiet saturated oil sand into a fluid-like abrasive. It determines the velocity of this fluid-like sand which attacts the screen, pipe and valves. It loosens the surrounding masses of oil saturated sand and converts it into an active, moving fluid.

### Paraffin Deposit

The rapid expansion of high-pressure gas coming out of the oil cools it. The paraffin that remains in solution in this oil under higher pressures and temperatures is then precipitated as a low temperature melting wax. This wax collects in the space between the wires of the screen or in the slots of the pipe and retains any sand or silt in these openings. The warm waters, carrying high concentration of salts in solution, precipitates these salts when they come in this cooler zone, which was caused by the rapid expansion and withdrawal of the gas. These salts collect in the openings of the screen and pipe and the crystals build a tight wedge, closing the screen, and making it of no further use. The high-pressure gas when closed off from the well by these obstructions drives the oil into other channels or back into the sand. Production declines as there is no way for the oil to pass into the well. The screen must be perforated, removed or cleaned.

As the bottom-hole pressure decreases, the loose saturated sands in the bottom of the hole gives up its free or dissolved gas. The sand is again an active semi-fluid abrasive. The velocities of the gas now being low, brings the sand into the screen where it is held. The pressures are not sufficient to let the finer silt and sand through. The decreased pressures permits water to come into the hole carrying with it fine shale in suspension and high concentration of salts. This increase of salt water with the corresponding decreases of oil causes corrosions of the screen and further closing of its openings. This impedes or entirely excludes all fluids. Under these conditions the well pressures gradually decrease and the production shows a marked decline over a period of time.

### Removal Costly

As before, the screen may be either removed, perforated or cleaned in place. To remove the screen is costly, the down time is great and the hole is in danger of further caving. The screen may be cleaned by shooting a small charge of an explosive in a gun. The gun shoots a piston 1⅛ inches in diameter through a 36-inch barrel which has slots cut vertically in the lower 20 inches. The gun fills with water as it is submerged below the liquid level. The barrel fits closely to the inside of the screen. As the gun is fired and the piston passes through the barrel the water and gases are driven out of the ports through the screen, jarring loose sediment, corrosive material, and crystals of the various salts. The force of the water and gases from the explosion, rushing through these openings, carries away all corrosive material, sand, silt or paraffin that had clogged it.

The force of the explosion imparted to the water is equalized and does not in any way rupture or distort the screen. The jar of the water rushing against the screen loosens the sediment and its high velocity washes it away. The gun is lowered into the well on a wire line passing through a measuring device so that its exact location is known. Two feet of screen is cleaned by each explosion.

Screens in high-pressure wells that decline rapidly and low-pressure pumping wells that show a gradual decline over several months have been successfully cleaned with this gun in several Gulf Coast fields. Wells in the Tomball and Orange field have had the production increased in some wells more than 100 percent. Other wells that were non-profitable from the start have had the screen cleaned. In these cases no increase of oil was produced, but the fluid contents increased. This shows the screen had been adequately cleaned.

# *Unsettling Factors*

## MARKET IS UNCHANGED BUT SEVERAL ACTIONS CLOUD OUTLOOK

ALTHOUGH prices generally remained unchanged during the past week, there arose several circumstances that tended to cloud the market outlook.

Especially unsettling was the action of the Texas Railroad Commission early in the week, fixing the Texas crude production allowable effective October 1 at 1,179,948 barrels daily, or 73,048 barrels daily above the Bureau of Mines recommendation.

Heretofore, Texas has been adhering closely to the bureau allocations.

Also unsettling was the fact that the Texas Railroad Commission chairman at the same time criticized the Bureau of Mines as having discriminated against Texas in making allocations. The chairman at that time gave the notice that the bureau's allocations among the different states would come under close scrutiny and discussion at the Interstate Oil Compact Commission meeting in Oklahoma City later in the week, October 2.

The original reaction to the Texas commission's attitude naturally was a defensive drawing back by the operators and officials of other leading oil producing states, including Oklahoma and Kansas. The incident quite naturally caused the various states to draw aloof from each other in regard to oil regulation, whereas for several months there had been a fair degree of cooperation, especially among Oklahoma, Kansas, Texas, and New Mexico.

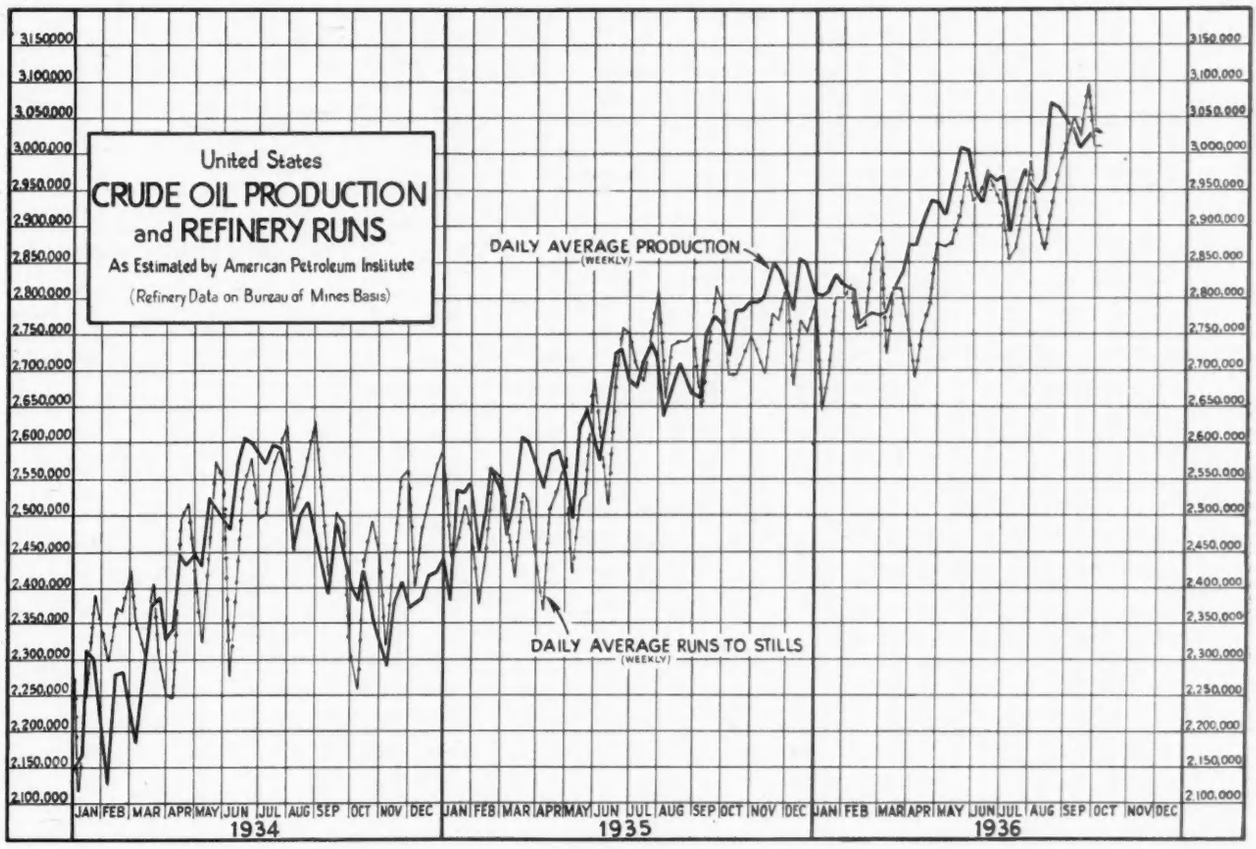
There was some hope earlier in the week that this new discord among the states might be partially reduced at the Interstate Compact meeting.

Nevertheless, these developments served warning that the future may hold less cooperation and success in restricting crude production and less stable markets for the industry.

### Actual Conditions Good

Despite this darkening of outlook for crude production control, however, the actual conditions so far continue distinctly favorable. It is a generally known fact that above ground stocks of oils are unusually low. The quantities of all oils in storage are the lowest for nearly 10 years, or since early 1927. But in the meantime, petroleum consumption has increased greatly, and while total stocks are at the levels of early 1927, these total stocks of today represent fewer days' supply than did those of 10 years ago. In fact, in terms of demand, the total stocks of oil are smaller today than at any other time in the past 15 years. At the end as well as the beginning of July, 1936, the nation's oil storage represented only 161 days' supply. To find a time when the supply was smaller in relation to demand, the records must be traced back to January 31, 1921, when the 217,996,000 barrels of all oils in storage represented 152 days' supply.

It was just at that time, the latter part of January, 1921, when a temporary shortage of oil was partially alleviated and when crude prices began to decline sharply from the high levels that had prevailed. At the middle of January, 1921, crude was posted at $5.75 a barrel in Pennsylvania; $3.50 in Oklahoma, Kansas, North Texas, and North Louisiana; over $3 in the Rocky Mountains; from $2.95 downward in California; and at $2.50 a barrel on the Gulf Coast. In the Oklahoma market, 450 end point gasoline in tank car lots was selling at 18 cents



a gallon and kerosene at 8½ cents a gallon. At Tulsa the gasoline tank wagon price was 27 cents a gallon and the service station price 29 cents.

The weakening of crude prices at the end of January, 1921, resulted from opening of flush oil fields and additions to storage. The days' supply of petroleum increased, and by the middle of the year, crude prices had fallen to about the levels that currently prevail; although they recovered substantially in the latter half of 1921, while the days' supply of oils remained about stationary. At the end of 1921 the total stocks of all oils represented 213 days' supply, and crude prices were posted at $4 a barrel in Pennsylvania; $2 in Oklahoma, Kansas, Arkansas, and North Louisiana; from $2.45 downward in California; $1.25 on the Gulf Coast. In the Chicago market, 450 end point gasoline was 12 cents a gallon f.o.b. tank cars at the refineries; while the gasoline tank wagon price was 19½ cents a gallon and the service station price 21½ cents.

The above history indicates that all oil prices, crude and refined, are relatively low at present, in view of the relation between supply and demand. But it also indicates that those high prices of early 1921 were highly vulnerable and could not withstand the strain of a sudden increase of crude storage. Similarly, todays stocks are such as to be conducive to favorable prices; yet prices any higher than those now prevailing might also prove unstable in event there should occur any serious opening up of crude production and important additions to storage. Any comparison of the present with early 1921 also must take into consideration that now there is a large and artificial restraint on crude production through proration, while 15 years ago the industry had not made any considerable use of the device of holding back production through proration.

### Runs and Stocks Lower

Trends in the oil industry in recent weeks have been satisfactory, as evidenced by further reductions in refinery runs and in the stocks of finished products. The American Petroleum Institute in its latest available weekly bulletin stated that reports from refineries with 89.8 percent of the nation's refining capacity indicated the whole industry ran to stills 2,990,000 barrels of crude daily in the week ended September 26, compared with 3,010,000 barrels daily in previous week. The new report showed that all companies had in storage at refineries, bulk terminals, in transit, and in pipe lines 56,472,000 barrels of finished and unfinished gasoline September 26, compared with 57,286,000 barrels a week previously. Meanwhile, gas oil and fuel stocks came down from 113,118,000 barrels to 112,504,000 barrels.

## East Texas Tank Car Shipments

**Week Ending September 27, 1936**

| PRODUCTS | No. Cars | Estimated Gallons |
|---|---|---|
| Gasoline | 700 | 5,688,380 |
| Fuel Oil | 298 | 2,773,741 |
| Casinghead Gasoline | 182 | 1,547,189 |
| Distillate | 63 | 490,447 |
| Gas Oil | 25 | 203,726 |
| Residuum | 12 | 97,342 |
| Kerosene | 11 | 83,469 |
| Naphtha | 2 | 14,452 |
| Total | 1,293 | 10,898,746 |
| Total Previous Week | 1,354 | 11,371,487 |
| Interstate | 446 | ..... |
| Coastwise | 439 | ..... |
| Intrastate | 408 | ..... |
| Total | 1,293 | ..... |

### Weather Influences Markets

Weather conditions last week had appreciable effects on the oil industry's markets, somewhat lowering gasoline consumption but increasing demand for heating oils and for kerosene. The wet and cooler weather naturally reacted against gasoline consumption, and there appeared to be more free offerings of the commodity. But heating oils came into greater demand with the starting of home burner operations, and in some instances buyers were obliged to bid prices upward in order to obtain supplies. The open market offerings of the Nos. 1, 2, and 3 oils continued limited. A factor tending to strengthen the kerosene market was the selling of kerosene for fueling range burners, as range oil came into demand for domestic heating. The natural gasoline market has continued favorable.

### Mid-Continent Prices Unchanged

Tank car prices in the Mid-Continent late last week were largely unchanged from a week previously. Tank car prices of U. S. motor gasoline f.o.b. Oklahoma refineries appeared to be about as follows: 62 octane and below 4½ to 4¾ cents a gallon; 63 to 67 octane, 4⅞ to 5⅛ cents a gallon; 68 to 70 octane, 5½ to 5¾ cents.

In the Chicago market the corresponding prices were: 4⅜ to 4¾ cents, 4¾ to 5¼ cents, and 5¼ to 5½ cents.

Kerosene prices were mostly unchanged, the 41-43 water white grade at 3 to 3¼ cents a gallon in both the Oklahoma and Chicago markets, and the 42-44 water white grade at 3⅛ to 3⅜ cents f.o.b. Oklahoma refineries and at 3⅛ to 3½ cents in the Chicago territory.

## RAISE PRICE

### Plymouth hikes Saxet crude schedule 10 cents

**Corpus Christi.**—Republic Pipe Line Company posted a new top price of $1.22 per barrel at the well for Saxet field, 5800-foot high gravity oil. This is an increase of 10 cents per barrel over the former posting of $1.12.

This is the only company with a regular posting in the field. Other companies are paying similar prices on contract.

## UP MICHIGAN PRICE

**Mount Pleasant.**—Old Dutch Refining Company, Muskogee, posted a 5 cent raise in price of Michigan crude over the major carriers' posting of $1.32 but to date no other pipe line buyers have posted advances.

Several weeks ago smaller crude buyers offered premiums from 5 cents to 22 cents per barrel but as far as could be learned few connections were gained.

## Summary of Wells Completed in the United States Week Ending October 3, 1936

| | Completions | Oil Wells | Gas Wells | Failures | Initial Production | Total Completions 1936 | Total Completions this Date 1935 |
|---|---|---|---|---|---|---|---|
| Alabama | .... | .... | .... | .... | ..... | 2 | 4 |
| Arkansas | 2 | 1 | .... | 1 | 90 | 76 | 105 |
| California | 18 | 17 | .... | 1 | 5,975 | 812 | 652 |
| Colorado | .... | .... | .... | .... | ..... | 10 | 9 |
| Illinois | .... | .... | .... | .... | ..... | 4 | 9 |
| Indiana | 3 | .... | 1 | 2 | ..... | 150 | 158 |
| Kansas | 47 | 39 | 2 | 6 | 43,252 | 1,276 | 1,070 |
| Kentucky | 11 | 11 | .... | .... | 600 | 219 | 137 |
| Louisiana | 36 | 24 | 7 | 5 | 26,972 | 814 | 556 |
| Michigan | 17 | 7 | 6 | 4 | 767 | 594 | 424 |
| Mississippi | .... | .... | .... | .... | ..... | 5 | 16 |
| Montana | 4 | 4 | .... | .... | 171 | 132 | 125 |
| New Mexico | 13 | 13 | .... | .... | 19,587 | 436 | 216 |
| New York | .... | .... | .... | .... | ..... | .... | .... |
| Ohio | 71 | 15 | 37 | 19 | 465 | 1,432 | 1,113 |
| Oklahoma | 52 | 38 | .... | 14 | 55,446 | 2,233 | 1,824 |
| Pennsylvania | .... | .... | .... | .... | ..... | .... | 100 |
| Texas | 210 | 166 | 1 | 43 | 268,719 | 9,457 | 9,170 |
| Utah | .... | .... | .... | .... | ..... | .... | 1 |
| West Virginia | 6 | .... | 4 | 2 | ..... | 486 | 371 |
| Wyoming | 2 | 2 | .... | .... | 5,756 | 64 | 56 |
| Florida | .... | .... | .... | .... | ..... | 2 | .... |
| Total this week | 492 | 337 | 58 | 97 | 427,800 | 18,207 | 16,138 |
| Total last week | 424 | 315 | 24 | 85 | 465,161 | .... | .... |
| Total this year | 18,207 | 12,246 | 1,706 | 4,255 | 17,394,836 | .... | .... |

### Comparison of Permits Granted for New Wells

| STATE | Week Ending Oct. 3 | Total this Mo. | Total this Year | Total this Date Last Year | 1935 Year Total |
|---|---|---|---|---|---|
| Arkansas | 5 | 5 | 77 | 32 | 70 |
| California | 23 | 23 | 796 | 617 | 925 |
| Louisiana | 2 | 2 | 889 | 552 | 846 |
| Kansas | 42 | 42 | 1,376 | 718 | 1,204 |
| Michigan | 18 | 18 | 558 | 399 | 749 |
| Oklahoma | 54 | 54 | 1,873 | 1,431 | 2,311 |
| Texas | 171 | 171 | 11,858 | 7,464 | 10,800 |
| Total | 315 | 315 | 17,002 | 11,213 | 16,964 |

## PRODUCTION DOWN

### U. S. output down 60,725 barrels last week

UNITED STATES crude oil production averaged 2,965,825 barrels daily during the past week, ended October 3. That was 60,725 barrels a day less than in the previous week, but 101,825 barrels a day more than the Bureau of Mines recommended for daily production during September.

The lower output last week in comparison with the previous week resulted largely from substantial decreases in Oklahoma, California and Kansas. Louisiana recorded a very slight decrease in crude yield, and Texas and New Mexico showed slight increases in production.

Oklahoma last week averaged 547,525 barrels daily, or 33,050 barrels a day less than in the preceding week. The new rate was 15,475 barrels a day under the federal allocation.

Kansas production last week averaged 157,800 barrels a day, or 13,075 barrels daily less than in the previous week, and the new output was 2200 barrels daily less than the Bureau of Mines recommendation.

Texas output rose 2300 barrels above the previous week's level in averaging last week 1,157,600 barrels daily. The new figure was 33,700 barrels a day above the federal allocation.

California's production decreased 15,000 barrels in averaging 553,000 barrels daily last week. The output was 17,800 barrels a day in excess of the Bureau of Mines recommendation.

Louisiana and New Mexico had almost the same rates of production as in the previous week. Louisiana's output averaged 235,400 barrels daily in the week of October 3, a 100 barrel decrease from the week before, and 49,200 barrels a day more than the federal allocation.

New Mexico output was up 100 barrels in averaging 79,600 barrels daily, and it was 8,000 barrels a day above the federal allocation.

## NOME HEARING

**Austin.** — Twenty-acre spacing for the new Nome field in Jefferson County was advocated Friday by major companies at hearing before the Texas Railroad Commission. Joining in the application were Humble Oil & Refining Company, Shell Petroleum Corporation and Sun Oil Company.

Witnesses declared that conditions in this field are similar to those in Amelia and other Gulf Coast fields, where there is a blowout hazard, and for this reason the wider spacing was urged.

D. D. Braugh, Sun Oil Company petroleum engineer, declared that 1000 feet of surface casing was necessary to protect the wells from blow-outs.

Oliver J. Todd, representing independents, urged closer spacing of wells. The case was taken under advisement by the commission.

## United States Crude Oil Production

**Estimates Compiled by THE OIL WEEKLY**

| DISTRICT OR STATE | Bureau of Mines Recommendation (Daily in Sept.) | ACTUAL PRODUCTION: BARRELS DAILY FOR WEEK ENDING | |
|---|---|---|---|
| | | October 3 | Sept. 26 |
| TEXAS— | | | |
| Texas Panhandle | ..... | 61,500 | 62,000 |
| North Texas | ..... | 60,100 | 61,000 |
| West Central Texas | ..... | 27,200 | 27,000 |
| West Texas | ..... | 172,100 | 171,000 |
| East Central Texas | ..... | 63,900 | 60,500 |
| *East Texas Field | ..... | 436,700 | 435,300 |
| †South Texas | ..... | 83,300 | 85,000 |
| †Texas Gulf Coast | ..... | 252,800 | 253,500 |
| *Total Texas | 1,123,900 | 1,157,600 | 1,155,300 |
| OKLAHOMA— | | | |
| Oklahoma City | ..... | 131,950 | 143,500 |
| Seminole Area | ..... | 123,700 | 135,725 |
| Tatums | ..... | 3,175 | 3,150 |
| Lucien | ..... | 12,250 | 12,825 |
| Fitts | ..... | 58,500 | 65,150 |
| Edmond | ..... | 11,825 | 17,325 |
| Others | ..... | 206,125 | 202,900 |
| Total Oklahoma | 563,000 | 547,525 | 580,575 |
| KANSAS— | | | |
| Ritz-Canton | ..... | 5,850 | 5,875 |
| Voshell | ..... | 2,975 | 2,975 |
| Nikkel-Hollow | ..... | 3,800 | 3,800 |
| Sedgwick | ..... | 4,950 | 5,225 |
| Burrton-Haury | ..... | 13,975 | 14,250 |
| Lorraine | ..... | 6,075 | 6,850 |
| Oxford | ..... | 3,800 | 3,875 |
| Others | ..... | 116,375 | 128,025 |
| Total Kansas | 160,000 | 157,800 | 170,875 |
| LOUISIANA— | | | |
| North Louisiana | ..... | 77,900 | 81,000 |
| Louisiana Gulf Coast | ..... | 157,500 | 154,500 |
| Total Louisiana | 186,200 | 235,400 | 235,500 |
| ARKANSAS | 30,500 | 28,100 | 28,100 |
| CALIFORNIA— | | | |
| Long Beach | ..... | 65,000 | 66,300 |
| Santa Fe Springs | ..... | 42,000 | 43,500 |
| Huntington Beach | ..... | 34,500 | 36,200 |
| Dominguez | ..... | 25,000 | 26,000 |
| Inglewood | ..... | 11,500 | 10,000 |
| Ventura Avenue | ..... | 33,500 | 34,000 |
| Seal Beach | ..... | 9,500 | 9,500 |
| Midway-Sunset | ..... | 54,000 | 55,000 |
| Elwood | ..... | 11,000 | 11,000 |
| Kettleman Hills | ..... | 79,000 | 78,000 |
| Mountain View | ..... | 22,000 | 21,500 |
| Playa del Rey | ..... | 12,000 | 11,800 |
| Others | ..... | 154,000 | 165,200 |
| Total California | 535,200 | 553,000 | 568,000 |
| MOUNTAIN STATES— | | | |
| Wyoming | 37,200 | 42,500 | 41,000 |
| Montana | 13,500 | 16,600 | 18,400 |
| Colorado | 4,500 | 4,800 | 4,900 |
| Total Rocky Mountain States | 55,200 | 63,900 | 64,300 |
| NEW MEXICO | 71,600 | 79,600 | 79,500 |
| EASTERN STATES | 107,100 | 112,800 | 114,400 |
| MICHIGAN | 31,300 | 30,100 | 30,000 |
| *Total United States | 2,864,000 | 2,965,825 | 3,026,550 |
| *Surreptitiously produced oil in East Texas, not included in above figures, estimated at | ..... | 15,000 | 15,000 |
| Grand Total, including surreptitious production | ..... | 2,998,125 | 3,041,550 |

† Coastal section of South Texas is included with Texas Gulf Coast.

## Crude Runs to Stills, Stocks of Finished and Unfinished Gasoline and Gas and Fuel Oil, and Cracked Gasoline Production, Week Ended September 26, 1936

**(Figures in thousands of barrels of 42 gallons each as reported to the American Petroleum Institute)**

| DISTRICT | Daily Refining Capacity | | | Crude Runs to Stills | | Stocks of Finished and Unfinished Gasoline | | | | Stocks of Gas and Fuel Oil | | | Daily Charging Capacity of Cracking Units | | | Cracked Gasoline Production |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reporting | | | | Finished | | | | | | | | Reporting | | |
| | Potential Rate | Total | % | Daily Average | % Operated | At Refineries | Terms. Trans. Pipe Lines | Unfinished in Naphtha Distillates | Total Finished and Unfinished | Gas, Oil & Distillate | Residual Fuel Oil | Total | Potential Rate | Total | % | Daily Average |
| East Coast | 612 | 612 | 100.0 | 534 | 87.3 | 5,210 | 9,634 | 913 | 15,757 | 6,877 | 5,559 | 12,436 | 534 | 534 | 100.0 | 118 |
| Appalachian | 154 | 146 | 94.8 | 107 | 73.3 | 825 | 965 | 285 | 2,075 | 346 | 292 | 638 | 79 | 78 | 98.7 | 26 |
| Ind., Ill., Ky | 462 | 444 | 96.1 | 419 | 94.4 | 4,668 | 2,904 | 693 | 8,265 | 3,398 | 3,046 | 6,444 | 349 | 348 | 99.7 | 133 |
| Okla., Kans., Mo | 453 | 384 | 84.8 | 281 | 73.2 | 2,958 | 2,069 | 442 | 5,469 | 1,139 | 2,411 | 3,550 | 256 | 228 | 89.1 | 72 |
| Inland Texas | 330 | 160 | 48.5 | 119 | 74.4 | 1,031 | 95 | 170 | 1,296 | 431 | 1,269 | 1,700 | 148 | 105 | 70.9 | 31 |
| Texas Gulf | 732 | 710 | 97.0 | 618 | 87.0 | 4,310 | 314 | 1,990 | 6,614 | 4,513 | 3,975 | 8,488 | 399 | 393 | 98.5 | 146 |
| Louisiana Gulf | 169 | 163 | 96.4 | 131 | 80.4 | 915 | 381 | 209 | 1,505 | 1,258 | 1,027 | 2,285 | 77 | 74 | 96.1 | 31 |
| North La.,—Ark. | 80 | 72 | 90.0 | 44 | 61.1 | 146 | 81 | 55 | 282 | 115 | 252 | 367 | 46 | 44 | 95.7 | 9 |
| Rocky Mountain | 97 | 60 | 61.9 | 46 | 76.7 | 677 | ..... | 90 | 767 | 213 | 589 | 802 | 46 | 39 | 84.8 | 11 |
| California | 852 | 789 | 92.6 | 475 | 60.2 | 8,110 | 2,134 | 1,120 | 11,364 | ..... | ..... | 73,484 | 280 | 280 | 100.0 | 74 |
| Reported | ..... | 3,540 | 89.8 | 2,774 | 78.4 | 28,850 | 18,577 | 5,967 | 53,394 | ..... | ..... | 110,194 | ..... | 2,123 | 95.9 | 651 |
| Estimated Unreported | ..... | 401 | .... | 216 | .... | 2,061 | 639 | 378 | 3,078 | ..... | ..... | 2,310 | ..... | 91 | .... | 39 |
| *Estimated Total U. S. September 26, 1936 | 3,941 | 3,941 | .... | 2,990 | .... | 30,911 | 19,216 | 6,345 | 56,472 | ..... | ..... | 112,504 | 2,214 | 2,214 | .... | 690 |
| *Estimated Total U. S. Septemner 19, 1936 | 3,941 | 3,941 | .... | 3,010 | .... | 31,311 | 19,505 | 6,470 | 57,286 | ..... | ..... | 113,118 | 2,214 | 2,214 | .... | 665 |
| U.S.B. of M. Sept.1935 | ..... | .... | .... | 2,778 | .... | †27,166 | †18,458 | †5,710 | †51,334 | ..... | ..... | †110,141 | ..... | .... | .... | 602 |

*Bureau of Mines basis currently estimated. †As of September 30, 1935.

## FLOW REVERSED

### Toledo refinery operates on Gulf Coast crude

**Toledo.**—Sun Oil Company has announced a new pipe line arrangement to supply crude oil to its Toledo refinery from the eastern seaboard, reversing the usual west to east flow.

The new source will bring oil from 3000 miles away by tanker from Gulf ports to Marcus Hook, Pennsylvania, where the Sun has a large refinery and terminal and will be pumped a distance of 500 miles over the Alleghenys to the Toledo refinery.

The company has marine connections in Toledo so that facilities are available for tanker movements over the entire distance between Gulf ports and Toledo should they be needed.

The Sun has relinquished its source of supply in Michigan fields due in part to a gradual decline in production rate there in proportion to the Toledo refinery's capacity.

## COAST SHIPMENTS

**Los Angeles.**—Total tanker shipments of crude oil and petroleum products from ports in California during August was 4,879,760 barrels, compared to 5,384,671 barrels in July and 5,286,638 barrels in June. Total movement during the first three months of this year fell below 5,000,000 barrels each month.

During August, the movement of crude oil reached the total of 928,740 barrels, compared to 1,399,488 barrels in July and 1,115,646 barrels in June. Fuel oil movement in August was 1,072,984 barrels, while the movement in July was 1,086,763 barrels and 883,376 barrels moved in June.

The gasoline movement in August in tankers from California reached a total of 1,713,412 barrels, compared to 1,534,114 barrels in July and 1,790,409 barrels in June. All of these figures are from the August report, compiled by the United States Bureau of Mines at San Francisco.

## TULSA FIELD TRIPS

**Tulsa.**—Officers of the Tulsa Chapter of the American Petroleum Institute's Division of Production are making plans for two field trips for the membership during October preparatory to inaugurating the indoor fall and winter meetings.

The chapter's busy spring and summer program for 1935-1936 recently was closed with a field trip to Nowata, to inspect oil field water-flooding operations of Forest Producing Company. The 300 men who made the 70-mile trip studied both the water-flooding system developed at Bradford, Pennsylvania, and later developments used in Nowata and Rogers counties of Northeastern Oklahoma. They were informed that water-flooding has increased gross recovery at Nowata to more than 3000 barrels of oil daily from 267 barrels per day.

## ANNUAL MEETING

### Pennsylvania association to meet aboard steamer

**Oil City, Pa.**—The Pennsylvania Grade Crude Oil Association's 1937 annual meeting will be held on board a Lake Erie Steamer, cruising the lake region for two days, with all sessions being held on board the boat. Dates for the meeting, June 17-19, and the decision to hold a meeting of this type were approved by the board of directors of the association at their regular meeting this month.

The Seeandbee, largest of the Great Lake Steamers, will be chartered for the purpose and its entire facilities placed at the disposal of the association's membership. Accommodations are ample to care for a large attendance and provide entertainment features which have not been feasible for previous meetings of the association.

According to present tentative plans the ship will leave some convenient lake city, probably Erie, Buffalo, or Cleveland, at noon Thursday, June 17. The first general session will be held that afternoon with others to follow on the second day. The boat will return to the city of departure at noon Saturday.

Although to the average person petroleum means gasoline and lubricating oil, it is a large source also of candles, chewing gum, drugs, perfumes, paint, preservatives, printing ink, cleaners' solvents, waterproofing, alcohols, anaesthetics, etc.

# CRUDE OIL PRICE QUOTATIONS

**(Figures Represent Basic or Flat Prices—Revised to October 2, 1936)**

| DISTRICT | Low Grav. | Dif. | High Grav. | Date |
|---|---|---|---|---|
| **Oklahoma-Kansas** | 28-$0.94 | 2¢ | 40—$1.18 | 1- 9-36 |
| **N. and N.-C. Texas** | 28— .84 | 2¢ | 40— 1.08 | 1- 9-36 |
| **Texas Panhandle** | | | | |
| Gray County | 34— .86 | 2¢ | 40— .98 | 1- 9-36 |
| Carson-Hutchinson | 34— .81 | 2¢ | 40— .93 | 1- 9-36 |
| **West Texas** | | | | |
| Ector, Pecos, W'kler Crane, Upton, Howard and Glasscock | 29— .76 | 2¢ | 36— .90 | 1-14-36 |
| **West Central Texas** | 28— .84 | 2¢ | 40— 1.08 | 1- 9-36 |
| **East Central Texas** | 28— .91 | 2¢ | 40— 1.15 | 1- 9-36 |
| **East Texas** | *1.15 | | | 1- 9-36 |
| Talco | * .60 | | | 4-15-36 |
| **Texas Gulf Coast** | | | | |
| Anahuac-Dickinson | 30— 1.04 | 2¢ | 40— 1.24 | 1- 9-36 |
| Conroe | 35— 1.24 | 2¢ | 40— 1.34 | 1- 9-36 |
| Tomball | *1.30 | | | 1- 9-36 |
| Cleveland | *1.00 | | | 1-11-34 |
| †Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge | Below 17— .88 | 2¢ | 34— 1.22 | 1- 9-36 |
| **South and S. W. Texas** | Below | | | |
| Refugio (Light) | 17— .88 | 2¢ | 34— 1.22 | 1- 9-36 |
| Refugio (Heavy) | *.90 | | | 1- 9-36 |
| Saxet | *.90 | | | 1- 9-36 |
| Mirando | *.85 | | | 1- 9-36 |
| Pettus | *1.25 | | | 1- 9-36 |
| Salt Flat | *.97 | | | 1-14-36 |
| Darst Creek | *.97 | | | 1-14-36 |
| Placedo (Heavy) | *.85 | | | 4- -36 |
| Placedo (Light) | *.95 | | | 4- -36 |
| Port Lavaca | *.97 | | | |
| Plymouth | *.90 | | | 12-17-35 |

* All gravities—flat rate.
† Gulf Coast prices as posted by Humble Oil & Refining Company.

| DISTRICT | Low Grav. | Dif. | High Grav. | Date |
|---|---|---|---|---|
| **Arkansas** | | | | |
| El Dorado (Light) and Rainbow | 25— $.78 | 2¢ | 40—$1.10 | 1-10-36 |
| El Dorado East Field and Smackover | *.75 | | | 1-10-36 |
| **North Louisiana** | 25— 0.78 | 2¢ | 40— 1.10 | 1-10-36 |
| Urania | *.97 | | | 1-10-36 |
| **South Louisiana** | Below | | | |
| Lockport | 19— .92 | 2¢ | 34— 1.22 | 1- 9-36 |
| Iowa Cameron Mds. | 19— .82 | 2¢ | 34— 1.12 | 1- 9-36 |
| **Rocky Mountain States** | | | | |
| Salt Creek | 29— .94 | 2¢ | 40— 1.18 | 1-10-36 |
| Elk Basin | *1.18 | | | 7-20-36 |
| Grass Creek (Light) | *1.18 | | | 7-20-36 |
| Grass Creek (Heavy) | *.58 | | | 1- 9-36 |
| Big Muddy | *1.11 | | | 1- 9-36 |
| Rock Creek | *1.12 | | | 1- 9-36 |
| Sunburst | *1.15 | | | 6- 5-36 |
| Lance Creek | *.90 | | | 1- 9-36 |
| Osage | *1.08 | | | |
| Cat Creek | *1.07 | | | 8-25-33 |
| Cut Bank | *1.35 | | | 6- 3-36 |
| Pondera | *1.05 | | | 9-29-33 |
| Hog Back, N. M. | *1.00 | | | 9- 8-33 |
| Lea County, N. M. | *.75 | | | 9-29-33 |
| **Mid-West States** | | | | |
| Lima | *1.15 | | | 9-18-36 |
| Illinois | *1.23 | | | 1- 9-36 |
| Princeton | *1.23 | | | 1- 9-36 |
| Western Kentucky | *1.23 | | | 1- 9-36 |
| **Pennsylvania** | | | | |
| Bradford | *2.45 | | | 1-13-36 |
| Sw. Pa. Pipe Line | *2.17 | | | 1-13-36 |
| Eureka Pipe Line | *2.12 | | | 1-13-36 |
| Buckeye Pipe Line | *1.97 | | | 1-13-36 |
| Corning Grade | *1.32 | | | 9-18-36 |
| **Michigan** | | | | |
| Central Michigan | *1.32 | | | 9-16-36 |
| Muskegon | *.70-1.00 | | | 12-31-32 |
| **Canada** | | | | |
| Petrolia | *2.10 | | | 9- 9-33 |
| Oil Springs | *2.17 | | | 9- 9-33 |

* All gravities—flat rate.
‡ Average price, all oil sales being to small refineries.

## MAJOR PRICE CHANGES

| | Penna. (Nat. Tr.) | Mid.-Cont. (36 Gr.) | Calif. (26 Gr.) |
|---|---|---|---|
| June 19, 1933 | Up 10 | Up 19 | ..... |
| June 26, 1933 | Up 10 | ..... | Up 9-12 |
| July 6, 1933 | Up 13 | Up 10 | ..... |
| July 17, 1933 | Up 15 | ..... | ..... |
| July 28, 1933 | Up 15 | ..... | ..... |
| August 11, 1933 | Up 10 | ..... | ..... |
| August 24, 1933 | ..... | Up 10 | ..... |
| August 30, 1933 | Up 15 | ..... | ..... |
| September 6, 1933 | Up 10 | Up 10 | Up 15 |
| September 8, 1933 | ..... | Up 15 | ..... |
| May 1, 1934 | Up 10 | ..... | ..... |
| November 6, 1934 | Cut 25 | ..... | ..... |
| December 6, 1934 | Cut 25 | ..... | ..... |
| January 4, 1935 | Up 15 | ..... | ..... |
| February 4, 1935 | Up 15 | ..... | ..... |
| May 16, 1935 | Cut 15 | ..... | ..... |
| June 26, 1935 | Cut 15 | ..... | ..... |
| July 16, 1935 | Cut 10 | ..... | ..... |
| August 29, 1935 | ..... | ..... | Cut °4 |
| September 6, 1935 | Up 5 | ..... | ..... |
| October 29, 1935 | Up 15 | ..... | ..... |
| November 1, 1935 | ..... | ..... | Up °28 |
| November 18, 1935 | Up 15 | ..... | ..... |
| December 6, 1935 | ..... | ..... | Up °9 |
| January 9, 1936 | ..... | Up 10 | ..... |
| January 13, 1936 | Up 15 | ..... | ..... |
| February 26, 1936 | ..... | ..... | Up '5 |

## CRUDE PRODUCTION TAXES

Oklahoma—Five percent of gross value less royalty interest.

TEXAS—Two cents or 2 percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Two percent of gross value at well and ⅜ of 1c per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

* All gravities—flat rate.
° Signal Hill 26 gravity.
' Seal Beach 26 gravity.

# CALIFORNIA OIL PRICES

**(All gravities above those quoted take highest prices of that field. Effective February 26, 1936)**

| Gravity | Signal Hill | Seal Beach Alamitos Heights | Huntington Beach | Inglewood | Playa Del Rey | Olinda Brea Canyon | Athens Rosecrans | Elwood Terrace | Torrance | Richfield | Whittier East Coyote La Habra | Montebello | West Coyote Hills | Santa Fe Springs | New Hall McKittrick Kern River Round Mounta | Mountain View | Midway-Sunset Buena Vista Hills Elk Hills | Lost Hills | Coalinga | Wheeler Ridge |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14-14.9 | $.80 | $.79 | $.78 | $.79 | $.80 | $.76 | .... | .... | $.80 | $.76 | $.76 | $.77 | $.78 | ..... | ..... | .... | .70 | $.76 | $.76 | .... |
| 15-15.9 | .80 | .79 | .78 | .79 | .80 | .76 | .... | .... | .80 | .76 | .76 | .77 | .78 | ..... | .7 | .... | .70 | .70 | .76 | .... |
| 16-16.9 | .80 | .79 | .78 | .79 | .80 | .76 | .... | .... | .80 | .76 | .76 | .77 | .78 | ..... | .0 | .... | .70 | .70 | .70 | .... |
| 17-17.9 | .80 | .79 | .78 | .81 | .80 | .76 | .... | .... | .80 | .76 | .76 | .77 | .78 | ..... | .70 | .... | .70 | .70 | .70 | .... |
| 18-18.9 | .80 | .79 | .78 | .84 | .80 | .78 | .... | .... | .82 | .76 | .76 | .77 | .78 | ..... | .70 | .... | .70 | .70 | .70 | .... |
| 19-19.9 | .82 | .79 | .82 | .87 | .84 | .81 | .... | .... | .85 | .76 | .78 | .77 | .78 | ..... | .70 | $.70 | .74 | .74 | .71 | $.70 |
| 20-20.9 | .85 | .79 | .85 | .90 | .88 | .84 | .... | .... | .88 | .78 | .82 | .77 | .80 | ..... | ..... | .70 | .78 | .78 | .72 | .70 |
| 21-21.9 | .88 | .79 | .89 | .93 | .93 | .88 | .... | .... | .91 | .80 | .85 | .77 | .84 | .78 | ..... | .73 | .82 | .82 | .74 | .70 |
| 22-22.9 | .92 | .82 | .92 | .96 | .98 | .92 | .... | .... | .93 | .84 | .89 | .79 | .88 | .78 | ..... | .77 | .87 | .86 | .78 | .72 |
| 23-23.9 | .95 | .86 | .96 | .99 | 1.02 | .96 | $.84 | .... | .96 | .88 | .93 | .82 | .92 | .78 | ..... | .80 | .92 | .90 | .82 | .76 |
| 24-24.9 | .99 | .91 | 1.00 | 1.02 | 1.06 | .99 | .88 | .... | .99 | .91 | 96 | .85 | .96 | .82 | ..... | .84 | .97 | .94 | .86 | .79 |
| 25-25.9 | 1.03 | .95 | 1.03 | 1.05 | 1.11 | 1.03 | .93 | .... | 1.02 | 95 | .... | .89 | .99 | .86 | ..... | .88 | 1.01 | .98 | .90 | .83 |
| 26-26.9 | 1.06 | 1.00 | 1.07 | 1.09 | 1.16 | 1.06 | .98 | .... | 1.05 | .98 | .... | .92 | 1.03 | .90 | ..... | .91 | 1.06 | 1.02 | .... | .... |
| 27-27.9 | 1.10 | 1.05 | 1.11 | 1.12 | .... | 1.10 | 1.03 | .... | .... | 1.02 | .... | .96 | 1.06 | .95 | ..... | .95 | 1.10 | 1.06 | .... | .... |
| 28-28.9 | 1.14 | 1.10 | 1.14 | 1.15 | .... | 1.14 | 1.07 | .... | .... | 1.06 | .... | .99 | 1.10 | .99 | ..... | .99 | 1.15 | 1.10 | .... | .... |
| 29-29.9 | 1.17 | 1.15 | 1.18 | 1.18 | F.O.B. | 1.17 | 1.12 | .... | .... | 1.09 | .... | 1.03 | 1.14 | 1.03 | ..... | 1.02 | 1.20 | 1.14 | .... | .... |
| 30-30.9 | 1.21 | 1.19 | 1.22 | 1.21 | Pipe | 1.21 | 1.17 | F.O.B. | .... | .... | .... | 1.07 | 1.17 | 1.08 | ..... | 1.06 | 1.25 | 1.18 | .... | .... |
| 31-31.9 | .... | .... | .... | 1.24 | Line | 1.24 | 1.22 | Ship | Kettleman Hills | | | 1.11 | 1.21 | 1.12 | ..... | 1.09 | 1.29 | .... | .... | .... |
| 32-32.9 | .... | .... | .... | 1.27 | .... | 1.27 | 1.27 | | | | | 1.14 | 1.25 | 1.16 | ..... | 1.13 | 1.34 | .... | .... | .... |
| 33-33.9 | .... | .... | .... | .... | .... | .... | 1.32 | $1.28 | 1.19 | | | 1.18 | 1.28 | 1.20 | ..... | 1.17 | 1.38 | .... | .... | .... |
| 34-34.9 | .... | .... | .... | .... | .... | .... | 1.37 | 1.32 | .... | 1.23 | .... | 1.22 | 1.32 | 1.21 | ..... | 1.20 | ..... | .... | .... | .... |
| 35-35.9 | .... | .... | .... | .... | .... | .... | 1.42 | 1.35 | .... | 1.27 | .... | 1.25 | .... | 1.29 | ..... | .... | ..... | .... | .... | .... |
| 36-36.9 | .... | .... | .... | .... | .... | .... | 1.46 | 1.39 | .... | 1.31 | .... | 1.29 | .... | 1.33 | ..... | .... | ..... | .... | .... | .... |
| 37-37.9 | .... | .... | .... | .... | .... | .... | 1.51 | 1.43 | .... | 1.35 | .... | 1.32 | .... | 1.37 | ..... | .... | ..... | .... | .... | .... |
| 38-38.9 | .... | .... | .... | .... | .... | .... | 1.56 | .... | .... | 1.39 | .... | 1.36 | .... | 1.42 | ..... | .... | ..... | .... | .... | .... |
| 39-39.9 | .... | .... | .... | .... | .... | .... | 1.61 | .... | .... | 1.43 | .... | 1.40 | .... | ..... | .... | .... | ..... | .... | .... | .... |
| 40-40.9 | .... | .... | .... | .... | .... | .... | 1.66 | .... | .... | .... | .... | 1.43 | .... | ..... | ... | .... | ..... | .... | .... | .... |

# the **Board wouldn't wait . . .**

while she hunted for the lost bulletin.
They found what they needed in the

# COMPOSITE CATALOG

**COMPOSITE CATALOG of OIL FIELD & PIPE LINE EQUIPMENT**

# WORLD DEVELOPMENTS and TECHNOLOGY

Edited by
WM. V. GROSS, Associate Editor

# *Mosul Deal*

## ITALIANS SELL INTERESTS IN NEAR EAST TO BRITISH

Confirmation was received from Rome September 28 that the Italians, represented by Azienda Generale Italiana Petrolio, had relinquished control of Mosul Oilfields, Limited, to Petroleum Concessions, Limited, a British-controlled organization and a subsidiary of Iraq Petroleum Company.

The transaction is of importance because it increases the British share of control of the most important oil reserves in the Near East. It means the withdrawal of Italy from the Iraq fields by relinquishing concessions on the west bank of the Tigris River.

While a combination of economic and political considerations is supposed to have influenced the withdrawal of Azienda Generale Italiana Petrolio from Iraq, the Italians are reported to have sold out for an amount equivalent to their original investment plus 10 percent.

Development of the Italian concessions in Iraq would have called for large outlay of capital without any immediate return, it having been estimated an annual expenditure of $5,000,000 would have been required for each of the next three years, to say nothing of a current necessity of spending $3,000,000 right away. Competition with Iraq Petroleum Company in Iraq was keen, also, and the latter viewed with disapproval the Italian plans for constructing a rival pipe line to the Mediterranean.

Just what the deal means to Near East oil and to England may be seen by a review of corporate set-ups of some of the principles involved.

Mosul Oilfields, Limited, has a capitalization of £2,300,000. It owns British Oilfields Development Company, commonly referred to as "B.O.D. Co.," which at the time of its acquisition by Mosul Oilfields, Limited, had a concession of 40,000 square miles in Iraq. F. W. Rickett, late of Ethiopian concession fame, promoted the sale.

Iraq Petroleum Company, parent organization of Petroleum Concessions, Limited, is directed by Sir John Cadman, chairman of the board. It is capitalized for £6,500,000 and owns the Iraq pipe line running from Kirkuk to the Mediterranean coast. Rated capacity of this line is 40 million tons per year.

Anglo-Iranian Oil Company, in which the British government owns £7,500,000 in ordinary voting shares, holds a large part of Iraq Petroleum Company stock—enough to control it.

The deal means, moreover, that Iraq Petroleum Company will avoid the possibility of competitive production nearer the European market. It means, furthermore, Mosul Oilfields, Limited, will be spared the expense of building a pipe line to the Mediterranean due to availability of Iraq Pipe Line Company's line through the new affiliation. The deal also means in all probability that development of the old Mosul concession will be expedited due to the new owners having more capital and exploitation experience.

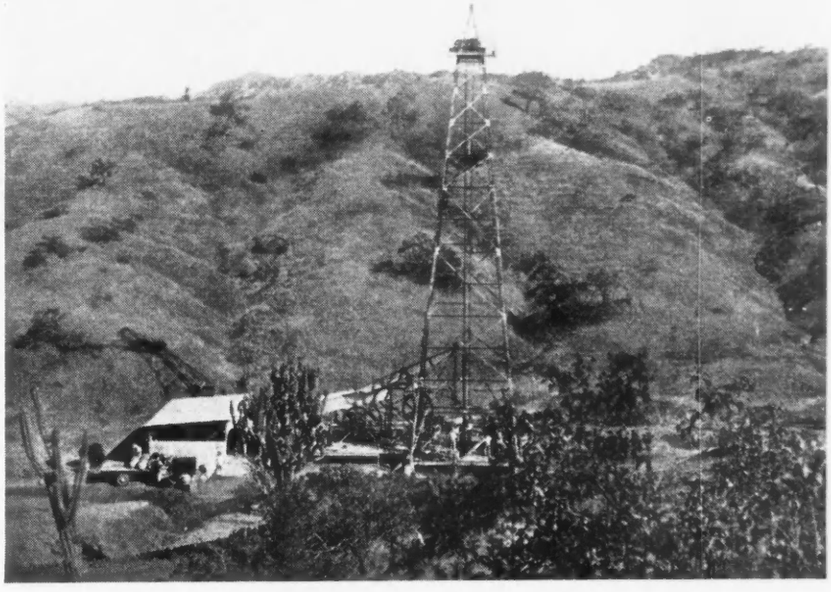
## VENEZUELA

### Standard concessions provide for refineries

The Venezuelan ministry of hacienda has granted concessions for the extraction of petroleum on parcels of land in Eastern Venezuela totaling 800,000 hectares, about 3000 square miles, to Socony-Vacuum Oil Company and Standard Oil Company of Venezuela, according to word received from Maracaibo. The Venezuelan government will receive Bolivars 21,128,-424.87, or about $5,417,544. A substantial part of the payments by both companies was made through the deposit of dollars in the United States.

Contracts with both companies embrace obligations on the part of the companies to build refineries in Venezuela. Socony-Vacuum Oil Company is obligated to build a refinery in Eastern Venezuela having a minimum capacity of 10,000 barrels daily, when, as and if sufficient production has been developed. While the minister of the hacienda had made no statement regarding the capacity of the refinery Standard Oil Company of Venezuela is obligated to build upon development of production, in Maracaibo circles it is believed the latter organization is called on for a 15,000-barrel daily capacity refinery when production from the new concession is developed to a certain stage. Standard Oil Company of New Jersey's affiliate in Aruba now operates a refinery of 150,000 barrels daily capacity. The Dutch Shell interests have an equally large plant at Curacao.

Inasmuch as it will be a number of months, possibly years, before large production is developed on the new concessions, there is little likelihood the refining industry in Venezuela proper will assume during 1936, or 1937, proportions to allow



**First exploratory test in the government reserved oil fields of Northwest Peru, Tumbes Province, Villar District.**

it to play a significantly more prominent role in the world market of finished petroleum products than it does today.

Production taxes on lands comprising the two concessions will, according to the concession contracts, amount to 15 percent of the commercial value of oil extracted from national reserves and 12½ percent of the value of oil from other lands. While the law of Venezuela establishes 10 percent as the minimum amount that may be accepted by the government for such taxes, the minister of fomento is authorized by the "Law of Hydrocarbons" to obtain special advantages for the government by stipulating increased rates of taxes or by other means. There are, according to the Venezuelan bureau of mines, 32,813,882 hectares controlled by the government in territories recognized, by the government, as being petroliferous. Of this amount, 2,020,062 hectares have been declared national reserves.

With the exception of the agreement to build refineries, terms of the concessions are about on a par with those applying when Standard Oil Company of Venezuela obtained large concessions in the same general vicinity in October, 1935.

## ARGENTINE MONOPOLY

### Private oil companies fear being driven out

Fear that private oil companies operating in Argentina eventually will be driven out of business there is felt in Buenos Aires oil circles as a result of the increasing tendency of the Argentine government to invest more and more power of control over various branches of the industry in Yacimientos Petroliferos Fiscales, the government controlled body for production, refining and marketing of oil and petroleum products.

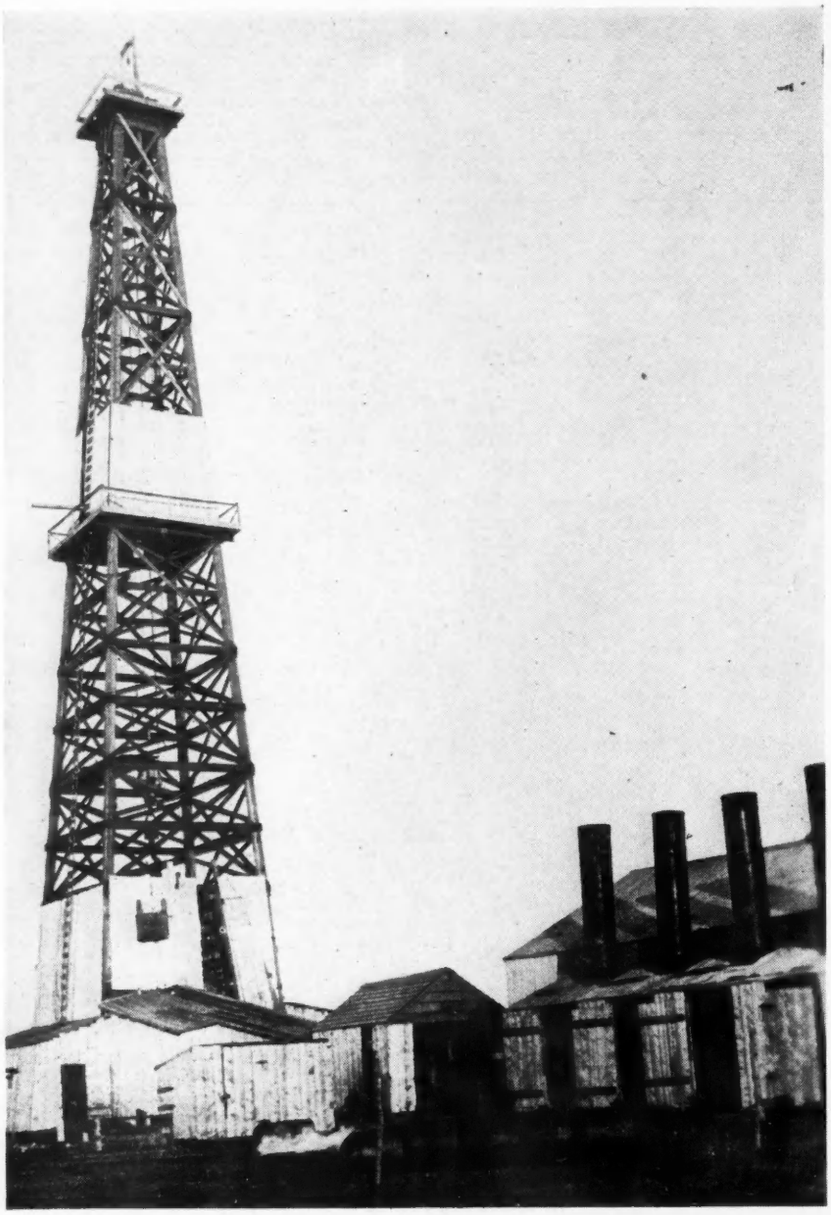
As a result of the acute situation in late September growing out of a government ruling stipulating in effect that the quota of retail sales of Yacimientos Petroliferos Fiscales in the Buenos Aires district must increase from the present participation of 30 percent to a figure between 40 and 50 percent of the total sales, at the expense of private corporations engaged in supplying the Argentine motorist with gasoline and lubricating oil, foreign capital invested in Argentina's petroleum industry has become alarmed. The increase is to take place gradually up to 1941.

Fear has been expressed that virtual control of the marketing branch invested in Yacimientos Petroliferos Fiscales in the South American republic by the decree of July 20 constitutes but a stepping stone to later control of the refining, transportation and production branches of the industry. It is said in Buenos Aires oil circles that such a tendency can but result in crippling one of the nation's greatest industries, as evidenced by government control of industry in other countries for generations.

Seriousness of the situation there is attested by emergency trips from headquarters to Buenos Aires late in September by vice presidents of Standard Oil Company of New Jersey and Royal Dutch Shell interests. These executives made the trip in an attempt to forestall what they believed a move on the part of the government to cripple unwittingly one of its own greatest assets, the oil industry.

So far Standard Oil Company of New Jersey's subsidiary in Venezuela and Shell-Mex Oil Company, have between them enjoyed about 55 percent of the retail trade in Argentina.

A well informed source in Buenos Aires not connected with the oil industry states he believes the decree of July 20 delegating regulatory power of oil product sales to Yacimientos Petroliferos Fiscales is not out of line with the supervised economy program of the Argentine government already visible and operative in other fields or private enterprise.



**Arca Development Company's No. 1, six miles east of Turner Valley—the deepest test in Canada**

## CANADIAN RECORD

### Depth title goes to Cayley structure's first test

Arca Development Company, Limited's No 1, located on the Cayley structure, six miles east of Turner Valley field, Alberta, having acquired title of the deepest test in Canada at 6500 feet, where it is standing to set 8-inch casing, will be drilled to 8000 feet, according to word received from Winnepeg September 16. The objective depth will not be realized, of course, if commercial production is found above that point.

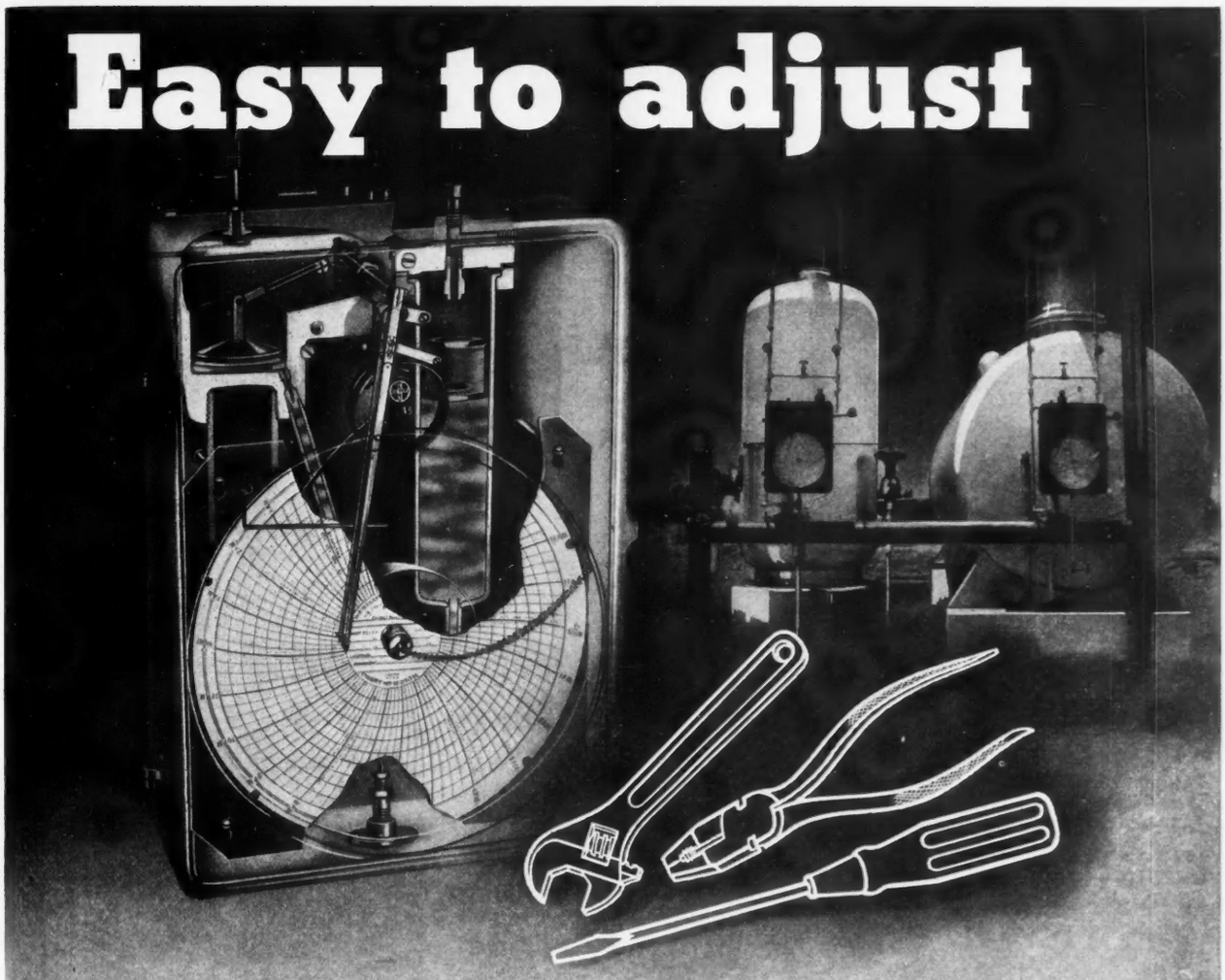
## SEEK ANAHUAC LAND

**Austin.**—A suit has been filed in the 53rd District Court seeking to recover 607 acres out of the Anahuac oil field for the benefit of the permanent school fund.

The suit is styled State of Texas vs. H. A. Gripon et al, and includes 36 other defendants.

The land is divided into several tracts adjoining Block 1, H. & T. C. Railway Survey in Chambers County. It is now operated by the Humble Oil & Refining Company.

# Easy to adjust



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# *Big Crescent Well*

## FLOW OF BETTER THAN 500 BARRELS PER HOUR MADE

WEEKLY STAFF REPORT

**Oklahoma City.**—Two wells at Crescent were holding the spotlight in the central section of the state.

The Texas Company's Denny 4, NW NE SE 33-17n-4w, in the Crescent pool of Logan County, which, while fishing at 6227 feet, flowed 505 barrels of oil in 24 hours. The well later produced 1340 barrels of oil in 24 hours, and was drilled ahead under pressure, looking for big pay at around 6285 feet. Denny 4 topped second Wilcox sand at 6185 feet, and found softened sand at 6237 feet. At this depth the well made 85 barrels of oil the first hour opened, then dropped to 65 barrels of oil per hour at 6241 feet. Later drilled into the rich part of the sand at 6269 to 6274 feet, the well was opened and made 500 barrels of oil in one hour, and 320 barrels the next hour, with an estimated 10,000,000 cubic feet of gas. It was then pinched in and when reopened the following day made 400 barrels of oil and 20,000,000 cubic feet of gas and was shut in for one hour. Reopened, it made 295 barrels of oil in 30 minutes, and had 25,000,000 cubic feet of gas, which appeared to be increasing.

On September 30, the well was opened and flowed 400 barrels of oil and 25,000,000 cubic feet of gas the first hour, and 530 barrels of oil with 35,000,000 cubic feet of gas the second hour. The flow was accompanied by about 35 barrels of sand, and was shut off by dropping the tools in the hole. Further plans for testing the well are under way. In one full hour, September 30, the well made 1085 barrels of oil, and the gas increased to 40,000,000 cubic feet. It made 786 barrels the next hour and 252 barrels the next 30 minutes.

On the northwest edge of the field, Sinclair Prairie Oil Company's Phillips 2, SEc NW 28-17n-4w, is fishing. Saturated Wilcox sand was found at 6506 to 6528 feet, the total depth being 6538 feet. Connections have been made for a test. Bailed down 2800 feet, operators were unable to lower the level of the oil. It flowed into pits, was shut in, and the connecting operation carried ahead. Later in the week, the well was opened and made 140 barrels of oil the first hour and 40 barrels the second hour and was shut in to take potential. Last time the well was opened, it flowed 498 barrels of oil in eight hours with 2,500,000 cubic feet of gas from the first Wilcox sand. Operators were preparing to run tubing.

Mid-Continent Petroleum Corporation's Campbell 4, SW SE NE 33-17n-4w, attempted another production test, but the well cut out after flowing 518 barrels of oil in 20 minutes. Gas was estimated at 40,000,000 cubic feet daily. The well sanded up and was shut down.

Carter Oil Company and Gulf Oil Corporation's Miller 2, SW NE SE 28-17n-4w, one time record gusher in the Crescent pool, continued to make water late last week. After the well had set a potential of 50,000 barrels of oil daily, water broke in, and has kept the crew busy attempting to shut it out since then. On a test made September 24, the well flowed 3168 barrels of oil through tubing in 24 hours, and in addition was cutting 64 barrels of water an hour. Further attempts at a shut-off were delayed.

In the Moore pool of Cleveland County, Anderson-Prichard Oil Company's State 1, SWc SE 16-10n-2w, is a potential 300,000,000 cubic foot gasser in the deep Wilcox sand. Opened shortly before noon September 28, the well made 236,000,000 cubic feet of gas and was pinched. When opened again, it made 274,000,000 cubic feet with a solid stream of distillate, and was closed in again after remaining open for 27 minutes. Back pressure was 1950 pounds at the opening and 500 pounds at the close. It is rated as the largest gasser in Oklahoma today. It was killed and shut in, and will be deepened to the oil producing horizons.

In Oklahoma City, Knox Garvin's Hall Mason 1, near Park Place and Laird Avenue, in the City field, was considered the key test to the east area, showing for a small producer on September 28. The well was flowing 20 barrels per hour while drilling at 6403 feet. Gas was estimated at 10,000,000 cubic feet. The future of the Laird district depends to a large extent on the outcome of the Mason 1, and operators are keeping a watchful eye cocked in that direction.

Barnsdall Oil Company's Banks-Geyer 1, which extended the field north of Thirty-Sixth Street, the first well in the north extension of the Oklahoma City field to encounter water, established a 24-hour potential of 408.39 barrels of oil and continued to cut almost 20 percent water. It was originally a 20,000-barrel well.

# *Good Completions*

## FITTS CONTINUES AS LEADER IN SOUTHERN OKLAHOMA

**Tulsa.**—The Fitts field of Pontotoc County continued to be the most active area in southeastern Oklahoma during the week, although no unusual developments have taken place there in the past seven days.

The possibility of a good bromide producer was seen at E. H. Moore et al's Schauers 12-A, SE NE NW 29-2n-7e, which had the first bromide from 4265 to 4285 feet, and the second bromide from 4320 to 4355 feet. It flowed 336 barrels of oil and 3,500,000 cubic feet of gas in one hour.

The same interests' Moody 4-A, NW SE SE 22-2n-7e, has developed as a good Hunton lime well, 3518 to 3909 feet. Following acidization with 4000 gallons, the well made 146 barrels of oil the first hour, 122 barrels the second, 96 barrels the third, 85 barrels the fourth, 69 barrels the fifth, and 70 barrels of oil the sixth hour, through tubing, with 2,500,000 cubic feet of gas.

Carter Oil Company's Harden 8, SEc SW 30-2n-7e, was deepened from 4340 to 4435 feet, and flowed 643 barrels of oil the first hour, and 565 barrels the second hour, with the drill pipe in the hole.

Magnolia Petroleum Company's Statler 3, SEc 28-2n-7e, Oil Creek sand discovery well, found below the Wilcox sand, was drilled to 4631 feet, and acidized with 5000 gallons. A load of 130 barrels of oil was pumped in on the acid. It was put on gas lift when it refused to flow following the acid treatment. The well later made a complete test with gas lift, but made no recovery. It will be deepened.

The same company announced location for five more tests in the immediate vicinity. They are as follows: Metropolitan Life Insurance Company 25, NE NW SW 27-2n-7e; Simpson 13, SW NE NE 29-2n-7e; Burris Heirs 12-A, SWc NW 30-2n-7e; Harden 7-D, SWc NE 30-2n-7e, and Harden 8-D, NE NW NE 30-2n-7e.

Fleetborn Drilling Company's Wooley 6, NWc SW 27-2n-7e, drilled to 3525 feet and was acidized with 5000 gallons. The well then flowed 163 barrels of oil the first hour, 157 barrels the second hour, 90 barrels the third hour, and 75 barrels the fourth hour through tubing, and was shut in.

Carter Oil Company's Richards 19, SWc SE 30-2n-7e, was given a potential of 3623 barrels of oil through tubing. Magnolia Petroleum Company's

Metropolitan Life Insurance Company 21, SW SE SE 22-2n-7e, was acidized between 3825 and 3829 feet with 5000 gallons, and flowed 369 barrels of oil in one hour through casing.

H. L. Blackstock et al's Daniels 3, NE SE SW 21-2n-7e, had the bromide from 4245 to 4282 feet, and after being acidized with 5000 gallons, flowed 345 barrels of oil in one hour through casing. It will be re-acidized with 10,000 gallons. Continental Oil Company's Bates 1, NW NE SE 27-2n-7e, made 80 barrels of oil on a test and was to be deepened.

In Seminole County, Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Parks 1, SEc SW 35-11n-5e, in the Stout area, topped Wilcox sand at 4627 feet and was flowing at the rate of 50 barrels of oil per hour. After drilling to 4634 feet, the well swabbed 750 barrels of oil in 14 hours September 28, and was shut in for tankage.

Stanolind Oil & Gas Company's Rogers 3, NE SW NW 8-6n-8e, in the Sasakwa sector of Seminole County, flowed 306 barrels of oil in two hours and was shut in. Total depth is 4215 feet in the Wilcox sand.

B. F. Green et al's Stillman 3, SE NW SW 7-6n-8e, three miles north of Sasakwa, had the Gilcrease sand at 2742 feet to 2763 feet, and produced steadily at the rate of 300 barrels of oil per day on swab.

Ross Oil Company's Hollis 1, NE SE NE 17-9n-7e, in the East Seminole City pool, was given a potential of 1750 barrels of oil and 1,600,000 cubic feet of gas in 48 hours. Production is coming from between 3447 and 3452 feet in the Cromwell sand.

Carter Oil Company's Nolley 1, in Section 23-10n-6e, in the Keokuk Falls pool, received a potential of 588 barrels of oil from 4294 feet.

Skelly Oil Company's Sporn 1, NW NE SW 21-17n-3e, a recent wild gasser, located south of Perkins, in Lincoln County, was building a new derrick after making preliminary tests at 4546 feet. It showed 54,000,000 cubic feet of dry gas, believed to be coming from dolomitic pay on top of the Wilcox sand.

# *Little Results*

## SOUTH OKLAHOMA ACTIVITY HAVING SMALL SUCCESS

**Ardmore.**—Although many tests are under way in southern Oklahoma, development of production in the area continues at a surprisingly low rate.

On the extreme western edge of the state, in Beckham County, Carter Oil Company's Davidson 1, C NW SW 2-9n-25w, north of Erick, was completed as a gas well. Operators found the gas, which was estimated at better than 12,000,000 cubic feet, after plugging back from the old depth of 6598 feet to 3669 feet, and perforating the casing. The same company has made location for Stephens 1, C NE NW 2-9n-25w, an offset to the gasser.

In Carter County, Gulf Oil Corporation's Johnson 8, C SW SW 28-2s-3w, in the Fox field, was drilling ahead in lime at 7439 feet, with oil continuing to show. Oil has been showing in the Hunton lime since that formation was topped at 7403 feet.

The discovery well of the area, Carter Oil Company's Ruth Williams 1, SW NE SW 27-2s-3w, was still flowing at the rate of about 500 barrels of oil daily from 8115 feet.

South of Hewitt, The Texas Company's Cathey 1, SE NE NE 6-5s-1w, was still trying to be put on the pump. The well was acidized at 4354 feet to 4375 feet, and produced a total of 275 barrels of oil.

In the Wirt district of the old Healdton field, Shell Petroleum Corporation's Wirt Franklin 69, NEc 8-4s-3w, was fishing for twisted-off drill pipe at 1630 feet. The well is to be a siliceous lime test, and is expected to go to 4000 or 5000 feet.

Cox & Hamon's Davis 5, SE SW SE 32-1n-3w, in the North Tussy area of Garvin County, cored 27 feet of solid sand between 2410 and 2437 feet, and drilled ahead into saturated sand from 2612 to 2627 feet. It was drilling below 2655 feet at last reports.

Carter Oil Company was preparing to start Jr. Perkins 1, NWc SE 4-1s-3e, half mile southeast of the Winkler & McQueen discovery well of the region.

Skelly Oil Company's Wood 1, NWc 4-1s-3w, extension well of the new pool, was drilling in white lime at 2930 feet, with no further show of oil since that encountered at 2723 feet.

Sinclair Prairie Oil Company's Stockton 1, SEc SW 26-6s-2w, in the Oswalt area of Love County, was perforating pipe, preparatory to testing at 7800 feet.

In Marshall County, Helmerich & Payne et al's Taliaferro 1, NE SE SW 26-5s-5e, in the Madill area, was set-

## OKLAHOMA
### Completions

| Company, Well and Location | Init. Prod. Bbls | Depth |
|---|---|---|
| ATOKA COUNTY— | | |
| Sanders, Redden 1, ne sw sw 19-1n-15e | * | 750 |
| BECKHAM COUNTY— | | |
| JoGail Drlg. Co., Gilliland 1, cne ne 33-8n-26w | * | 2538 |
| CARTER COUNTY— | | |
| Westheimer & Daube, Dillard 6, nw se sw 22-4s-2w (otd 1832) | 25 | 2001 |
| Shell, McClure 44, ne se sw 5-4s-3w | * | 1212 |
| McClure 46, sw nw se 5-4s-3w (pb 1080) | 2 | 1125 |
| CLEVELAND COUNTY— | | |
| Sinclair Prairie et al, Fant 1, nw nw nw 27-10n-2w | ¶25-8854 | 7294 |
| CREEK COUNTY— | | |
| Anthony, Barton 3, ne ne ne 4-16n-12e | 45 | 2260 |
| Sinclair Prairie, Upton 12, cne ne 4-16n-12e | 66 | 2270 |
| Indo Oil, Sapulpa 1-A, sw nw nw 33-18n-11e | * | 2324 |
| Riverland Oil, Burgess 2, nw sw sw 32-15n-9e | 40 | 1255 |
| HARMON COUNTY— | | |
| A. M. Jackson, Fee 1-A, sw sw sw 27-1s-24w | * | 3001 |
| JACKSON COUNTY— | | |
| Gulf Oil, A. J. Ellis 4, se sw ne 6-1s-19w | 265 | 2606 |
| KAY COUNTY— | | |
| Shell & Continental, Lawrence 1, se se nw 5-28n-1w (otd 2395) | 260 | 2794 |
| MARSHALL COUNTY— | | |
| Paul Robb, Vittetoe 1, cne se 11-5s-4e | * | 5461 |
| MURRAY COUNTY— | | |
| Arrow Drlg., Sadler 1, sw ne nw 20-1n-2e (otd 1620) | * | 2674 |
| MUSKOGEE COUNTY— | | |
| Robinson et al, Mussellum 3, ne nw ne 5-13n-19e | * | 1468 |
| NOBLE COUNTY— | | |
| Glen Dial et al, Kolb 1, cne sw 28-20n-2w | 1150 | 5134 |
| OKFUSKEE COUNTY— | | |
| Blackwell, Dolton 5, ne ne ne 36-10n-8e | 360 | 1763 |
| Sinclair-Prairie, Palmer 1, ne se nw 19-10n-9e | 360 | 1863 |
| J. A. Chapman, King "B" 1, sw sw sw 30-10n-9e | 70 | 1772 |
| Chapman et al, Yarhola 1, sw se sw 30-10n-9e | ¶8-5 | 1766 |
| Gulf Oil, Choee 5, ne sw nw 31-10n-9e | 340 | 1780 |
| H. B. & M. & Mansion, Comey 2, sw ne ne 26-12n-11e | 103 | 3595 |
| Pure Oil, Rentie 2, ne nw ne 26-12n-11e | 270 | 3592 |
| OKLAHOMA COUNTY— | | |
| Anderson-Prichard, Boedecker 1, ne se sw 22-12n-3w | ¶18½-6640 | 6499 |
| Hall & Briscoe, Francis 1, se se sw 22-12n-3w | ¶3½-9975 | 6496 |
| British American, Hampton 3, ne nw sw 23-12n-3w | 4444 | 6483 |
| Sunray & Phillips, Harn 2, se se nw 27-12n-3w | ¶11-8878 | 6458 |
| Slick-Urschel, Hannum 1, nw nw sw 20-13n-3w | ¶7¾-5670 | 6685 |
| OKMULGEE COUNTY— | | |
| J. F. Moore, Rowe 2-A, se ne ne 10-15n-14e | 10 | 1583 |
| OSAGE COUNTY— | | |
| Murry Ringold, 3, cw½ w½ sw 17-21n-9e | * | 2363 |
| Tidewater Oil, Graves 8, nw sw ne 9-24n-7e | 140 | 2628 |
| Lewis & Continental, 16, sw nw se 9-24n-7e | 263 | 2653 |
| McMahon & Price, 1, se se ne 31-24n-11e | 24 | 1726 |
| Philtex Oil, 59, sw nw nw 22-25n12e | 1 | 1515 |
| PONTOTOC COUNTY— | | |
| Carter Oil, Craddock 5, se se ne 25-2n-6e | lcn. | abd. |
| Moore, Mack 5, sw sw se 28-2n-7e | lcn. | abd. |
| Carter Oil, Richards 18, se se se 30-2n-7e | ¶1½-4138 | 4418 |
| Sunray, Richey 5, se se se 1-4n-7e | * | 2105 |
| Sledge, Miller 1, csl se ne 16-5n-8e | * | 1170 |
| Sinclair Prairie, Ralls 10, cse sw 28-5n-8e | 5 | 1415 |
| POTTAWATOMIE COUNTY— | | |
| Magnolia, Williamett 1, sw sw ne 12-7n-4e | * | 4209 |
| Hylton Phillips, Bettis 3, sw se sw 21-7n-4e (otd 4105) | 1511 | 4176 |
| Cherry 2, sw ne sw 21-7n-4e | 153 | 4154 |
| Alexander, Tucker 1, se se se 34-7n-4e (otd 4268) | 270 | 4282 |
| SEMINOLE COUNTY— | | |
| Magnolia, Drewery 3, se se se 18-9n-7e | 378 | 3468 |
| Carter Oil, Hully 1, ce½ ne se 15-10n-6e | 240 | 4238 |
| Carter Oil et al, Aldridge 5, cn½ nw ne 35-11n-6e | 336 | 4158 |
| Canavan-Davis, Burke 1, cnw ne 8-8n-10e | 65 | 3200 |
| Suppes, Sand-Maudler 1, se sw sw 4-9n-9e | * | 1737 |
| STEPHENS COUNTY— | | |
| Texas Co., L. Bohanan 3, nw nw nw 15-3s-5w | 43 | 1480 |
| Raizen Bros., Price 4, sw se sw 10-3s-5w | 25 | 1459 |
| McCasland et al, Hildebrand 1, sw se ne 1-3s-7w (otd 3003) | * | 4601 |
| TULSA COUNTY— | | |
| Kroger, Haikey 1-A, ne se se 32-18n-14e | 22 | 1530 |

*Failures; †Junked; ¶Million cu. ft. gas.

ting the thirteenth whipstock at 5910 feet.

Patsy Oil Company's Sam Vittitoe 1, C NE SE 11-5s-4e, west of Madill, was preparing to resume drilling at 5461 feet, after having been shut down at that depth for more than a year. It will be drilled ahead 1000 feet.

## LARGE GAS WELL
### Billings test making lots of gas and some oil

**Tulsa.**—In Noble County, Phillips Petroleum Company and Shell Petroleum Corporation's McCaughtry 3, NE SE NE 21-23n-2w, in the Billings pool, topped the Wilcox sand at 4228 feet, and drilled to 4255 feet. Opened for 30 minutes, the well flowed 100,000,000 cubic feet of gas. It looks to be Oklahoma's second largest gasser after showing for approximately 150,000,000 cubic feet of gas and making about 15 barrels of high gravity oil in one hour.

Mid-Continent Petroleum Corporation's McKernan 1, NW NE SE 24-12n-8e, in the Boley area of Okfuskee County, was shot with 20 quarts and got 700 feet of fluid in the hole, which later bridged over, 300 feet off-bottom. The depth is 3218 feet. Operators are building tanks.

Kewanee Oil & Gas Company's Alfred 1, NW SW NE 26-26n-6e, in the Burbank area of Osage County, made 934 barrels of oil after being shot between 2844 and 2899 feet in the Burbank sand. Several new tests are being started in the area by the Carter Oil Company. Their No. 8 is a location in NWc SE 34-26n-6e; No. 5, SE NE SW 34-26n-6e, and No. 7, NE NW NE 3-25n-6e.

A revival of activity in the Bixby area near the city of Tulsa was seen during the past week at Klingensmith 1-A, SW SE SE 33-17n-12e, which drilled into the Wilcox sand at 2245 feet, and at 2280 feet was shot with 20 to 40 quarts, following which it flowed about 11 barrels of oil per hour. In the same area, Sinclair Prairie Oil Company's No. 11, 33-17n-12e, had the Wilcox sand from 2235 to 2255 feet, and was making about 20 barrels of oil per hour natural.

In Creek County, Riverland Oil Company's Burgess 2, NW SW SW 32-1s-9e, was a 40-barrel pumper following a 60-quart shot in the Layton sand from 1200 to 1225 feet.

Oklahoma District Oil Company's Beeler, 1, NEc SW 7-7n-14e, north of McAlester in Pittsburg County, began making new hole September 30. No new had been made for the last two months, due to lost tools caving a portion of the hole at 2300 feet, where circulation was lost also.

## CITY RULING

**Oklahoma City.**—Well owners in the Wilcox zone of the Oklahoma City field were given the month of October in which to make up accrued underproduction in an order passed September 29 by the Oklahoma Corporation Commission. Any accurate production after standing at 7 a.m., November 1, will be cancelled.

By calculation up to September 1 there was 2,495,370 barrels of production in arrears in these Wilcox zone wells. This has accumulated over a period of two years. Much of this oil has been credited to wells, which can now make no more than their allowables. A few wells have as much oil in arrears as they have produced. Because of this the amount of oil that will be added to the current allowable will fall short of the amount set up as production in arrears.

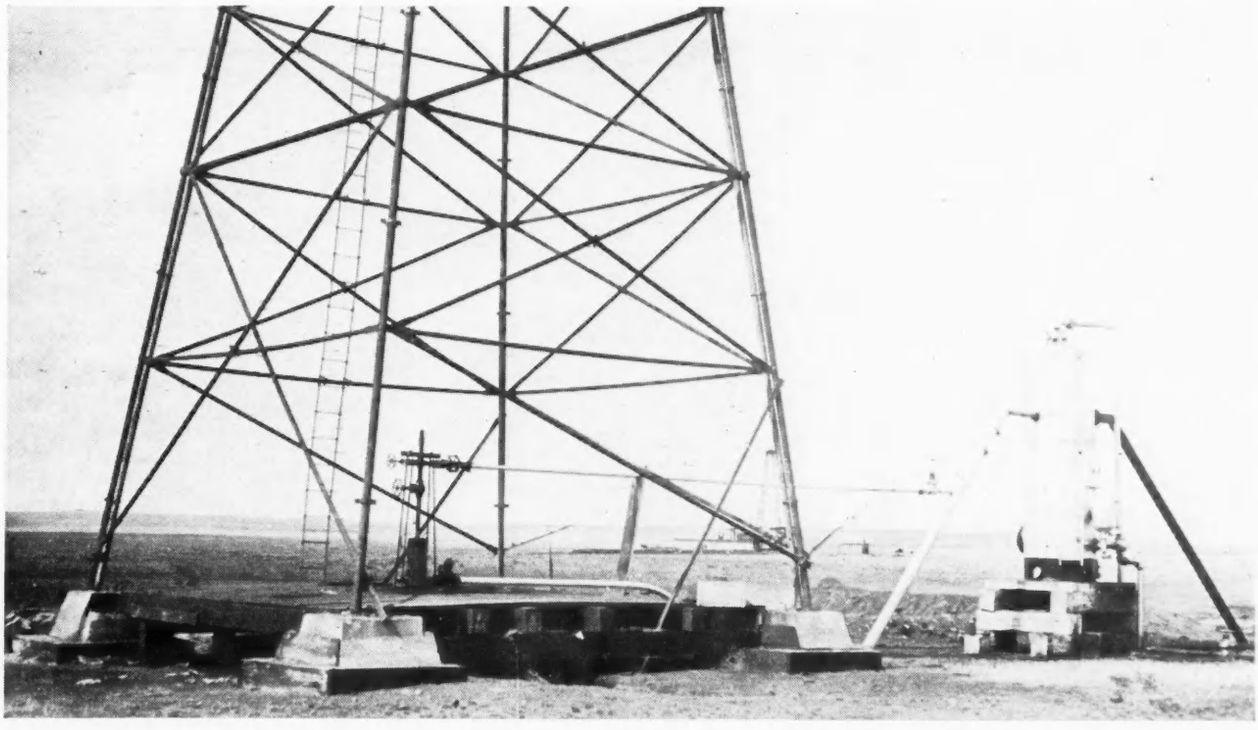
## 54 NEW STARTS

**Tulsa.**—Completed wells and new locations ran a dead heat for the week in Oklahoma, 54 each. Among the completions were 38 oil wells, good for 55,446 barrels potential, no gas wells, 14 dry holes and two abandoned locations. Pontotoc County led in locations with 10, while Osage County had 9. Okfuskee County had 5 and Oklahoma County 4. Three were made in Creek County and 3 in Seminole County. Counties having 2 each were Kiowa, Stephens and Tulsa. Counties with one location each were Caddo, Carter, Coal, Garvin, Hughes, Jackson, Jefferson, Lincoln, McIntosh, Noble, Payne and Pittsburg.

## MAGNET HEARING

**Austin.**—A hearing on the Magnet field in Wharton County, which was scheduled for September 30 before the Texas Railroad Commission, has been postponed until October 16.

Commission officials said the delay resulted from a request received from the operators, who stated that they were not yet prepared to present the case. The purpose of the hearing is to consider spacing and other rules for operation in the field.



**Enterprise Transit Company's (Kewanee Oil and Gas Company) Mosier 4, SE NW NE 34-26n-6e, in South Burbank, Osage County, Oklahoma, showing manner of well hookup. Casing flow line is immediately above the derrick floor, the tubing flow line being connected at top of Christmas tree. Separator to the right of derrick with a "bean" for fluid level control or holding of back pressure. The first well completed on each 40-acre tract in the Burbank pool is allowed maximum production for the first 48 hours. During this period the well is produced through casing line into the separator. Subsequent production is through tubing. Use of this type of hookup is of advantage in completing a well as the casing line handles oil produced while drilling in.**

# *Kansas Active*

## BIG WELLS, EXTENSIONS, NEW FIELDS FEATURE WORK

WEEKLY STAFF REPORT

**Wichita.**—Oil operators in Kansas continued their activities during the past week, keeping the region on top as one of the most active in the nation. One of the leading producers for the week was Hartman & Blair's Roubach 4, NWc 2-14s-15w, in the Sullivan pool of Russell County, which was completed for 3048 barrels of oil from the Lansing lime at 3055 feet. It is a companion well to Roubach 1, completed 18 months ago for 4076 barrels of oil from the Topeka lime at 2799 feet.

Coralena Oil Company's Sellens 1, NWc 17-15s-13w, 14 miles southeast of Russell in that county, was showing for a good producer from the Topeka lime. Oil was standing in the hole from 2878 feet in the formation topped at 2620 feet. The first pay zone was picked up from 2790 to 2800 feet as the hole filled 200 feet with oil in 40 minutes. It was drilled deeper, and the oil flow increased from 2875 to the total depth.

Bridgeport Machine Company's Mermis 1, SE NE SW 33-13s-15w, in the Gorham East pool, filled 2700 feet with oil in four hours from the Gorham sand, found at 3316 feet.

In Sumner County, Slick, Pryor & Lockhart's Murphy 3, SEc 32-31s-1w, extended the Wellington pool one-fourth mile south when it flowed 1012 barrels of oil in 11 hours September 26, and is rated as the largest producer in the field. The chat was tested from 3640 to 3649 feet, and the flow came after the plug was drilled and the hole carried on down several feet. Later in the week, the well made 2155 barrels of oil in 24 hours from the chat at a total depth of 3652 feet. The same operator's Pearsel 4, which made 1785 barrels of oil, was previously the largest well in the pool. The new producer is the forty-third for the area.

W. C. McBride & Olson were moving in materials for Kinlund 1, NE NW NE 24-34s-1e, one mile west of Ashton and northwest of production in the Padgett pool of Sumner County. The location is said to be surrounded by dry holes, the nearest being several miles away. The new test is located in an area which has been tested by seismograph and core-drilled and will be drilled with rotary tools.

In Rice County, Sage & Douglas' No. 1, SWc 5-21s-7w, northwest of Nickerson, filled in three hours from the conglomerate between 3335 and 3470 feet. It was shut in for tankage. Completion of this well opens the fifth new pool for Kansas in a little more than ten days. It is northwest of the Hauschild pool.

Weaver Drilling Company et al's Doran 1, NEc 13-19s-10w, west of the north end of the Chase pool, filled 1600 feet with oil from the Siliceous lime at 3211 feet and was running six-inch casing preparatory to testing. Top of the lime was found at 3291 feet. Completion of this well as a commercial producer will mark the opening of the twenty-second pool in Rice County.

Hartman & Blair's Schartz 1-B, SEc 33-19s-9w, in the Schartz pool, flowed 1586 barrels of oil after being deepened from 3320 to 3335½ feet, in the Siliceous lime. It was given a potential rating of 440 barrels of oil.

Derby Oil Company's Theede 2, NWc 14-21s-7w, in the Hauschild pool, flowed 1154 barrels of oil natural in a potential test from the conglomerate at 3385 feet. It is the farthest southeast producer in the area.

Stanolind Oil & Gas Company's Hilger 3, NWc 16-26s-4w, in the Hilger pool of Reno County, on a preliminary test, flowed 75 barrels of oil an hour from the Viola lime at 4040 feet. During later tests, the well made 278 barrels of oil in 24 hours from the same formation. It is three locations west and three locations north of the discovery well.

National Refining Company's McLean 3, SEc 25-17s-11w, in the Bloomer pool of Barton County, was completed for 1562 barrels of oil natural from the Siliceous lime at 3295½ feet. McLean 3 topped the lime at 3287 feet, lower than any other test in the same area.

In the same county, Yernell & Carlson's Bloomer 2, SE NE NW 36-17s-11w, was completed for 1640 barrels of oil from the Siliceous lime at 3271 feet.

Tanks were being erected preparatory to testing a show had at E. B. Shawver's Lagree 3, SWc SE 17-19n-1w, in the Ritz-Canton pool of McPherson County. Lagree 3 had 1500 feet of fluid in the hole from 2986 feet in the chat. A flow of gas estimated at 200,000 cubic feet was picked up at 2976 feet.

Northeast of Kingman in that county, McBride et al's Wooldridge 2-A, SW NE SE 16-27s-7w, was shut down for orders after being deepened from 3891½ to 3898 feet in the Mississippi lime and

## KANSAS
### Completions

| Company, Well and Location | Init. Prod. Bbls | Depth |
|---|---|---|
| BARTON COUNTY— | | |
| Slick, Pryor & Lockhart, Meyers 1, se se ne 13-17n-11w | 487 | 3311 |
| Republic Oil, Bloomer 2, sw ne nw 36-17s-11w | 1136 | 3287 |
| Yarnell & Carlson et al, Bloomer 2, se ne nw 36-17s-11w | 1640 | 3271 |
| BUTLER COUNTY— | | |
| Page Huston, Eystone 2, se nw sw 8-23s-4e | 109 | 2093 |
| National Ref. N. Lathrop 13, ne nw nw 17-23s-4e | 227 | 2065 |
| Coppins, Baker 1, ne sw nw 13-26s-3e | * | 140 |
| Dalton et al, Miley 1, csw ne 17-27s-5e | * | 350 |
| Empire, Doughty 1, ne ne ne 7-27s-6e | * | 3189 |
| ELLIS COUNTY— | | |
| Margay Oil, Bemis "A" 3, sw se se 16-11s-17w | 1665 | 3332 |
| Philhan Oil, Gerstner 1, sw sw se 24-14s-17w (pb 3254) | 50 | 3506 |
| Vickers, Kraus 1, sw sw nw 22-14s-19w | 259 | 3740 |
| ELLSWORTH COUNTY— | | |
| Empire, Kunkle 1, se sw se 16-15s-8w | * | 3035 |
| FINNEY COUNTY— | | |
| Helmerich & Payne, Jones 1, cse 34-26s-34w | ¶3¼ | 3507 |
| GREENWOOD COUNTY— | | |
| Marathon Oil, Pixlee 8, nw sw nw 8-22s-10e | 28 | 2400 |
| HARVEY COUNTY— | | |
| Palmer et al, McBurney 1, cnw nw 12-23s-2w | 2085 | 2978 |
| McPHERSON COUNTY— | | |
| Rosenthal & Beardmore, Johnson 3, cn½ s½ se 30-18s-2w | 70 | 2318 |
| Hawkins et al, Bitikofer 1, ne ne se 2-20s-1w | * | 3505 |
| Continental, Wenger "A" 3, se se ne 32-21s-1w | 60 | 3339 |
| PAWNEE COUNTY— | | |
| Simpson Oil et al, Gates 1, sw sw sw 13-20s-16w | ¶1½-257 | 3841 |
| RENO COUNTY— | | |
| Wilcox, Neufeldt 1, sw sw nw 12-23s-4w (pb 3380) | 1109 | 3623 |
| Shell, Welch "A" 3, cne sw 9-24s-4w | ¶1½-424 | 3393 |
| Magnolia, M. Harris 3, nw ne nw 9-26s-4w | 1520 | 4123 |
| RICE COUNTY— | | |
| Empire, Jansen "A" 5, ne nw nw 3-18s-8w | 840 | 3250 |
| Skelly, Dittmers 1, se sw nw 28-19s-10w | 1333 | 3296 |
| Gulf Oil, E. Steckel 3, sw se ne 31-19s-10w | 979 | 3295 |
| Bradley Oil, Wendell 5, nw ne ne 32-19s-10w | 163 | 3347 |
| Stanolind, Schmidt 3, sw ne se 16-20s-9w | 538 | 3264 |
| Gulf Oil, Stoltz 2, sw nw nw 5-20s-10w | 1480 | 3311 |
| Mid-Continent, Risse 6, se se ne 6-20s-10w | 1641 | 3316 |
| Texas Co., Kleile 2, sw nw sw 34-19s-10w | 1100 | 3326 |
| Tatlock, Berscheidt 8, ne sw nw 6-20s-10w | 1774 | 3280 |
| Garden et al's Hauschild 2, ne ne ne 15-21s-7w | 5925 | 3385 |
| ROOKS COUNTY— | | |
| Sunray, Senecal 1, se se sw 26-10s-19w | 352 | 3495 |
| RUSSELL COUNTY— | | |
| Central Pet., Rush "B" 3, cs½ ne sw 19-12s-15w | 540 | 3063 |
| Smoky Hill Oil, Miller 1, ne nw nw 31-14s-13w | 1161 | 2931 |
| Billings, Mermis 3, nw ne ne 9-14s-15w | 416 | 3127 |
| J. C. Shaffer, Polcyn 5, ne se ne 10-14s-15w | 1728 | 3261 |
| Hartman & Blair, Harbaugh 3, se se sw 25-14s-15w | 1307 | 3152 |
| National Ref, Reinhardt "C" 3, nw sw se 25-14s-15w | 1886 | 3157 |
| W. I. Southern, Inc., Sellens 4, sw nw sw 29-15s-13w | 1595 | 3307 |
| Sellens 5, sw se sw 29-15s-13w | 2076 | 3330 |
| Coralena Oil, Trapp 6, sw sw se 30-15s-13w | 2405 | 3262 |
| Boomhauer 4, nw ne nw 32-15s-13w | 2461 | 3323 |
| SEDGWICK COUNTY— | | |
| Aylward et al, Stoller 3, se ne sw 11-26s-2e | 418 | 3158 |
| STAFFORD COUNTY— | | |
| C. B. Davis et al, Riley 2, sw se se 19-22s-11w | * | 3762 |
| STEVENS COUNTY— | | |
| United Prod., Christopher 1, cse 11-33s-39w | ¶11 | 2780 |
| TREGO COUNTY— | | |
| Central Commercial Drlg., Wagg 2, nw nw se 17-13s-21w (pb 3910) | 8 | 4563 |

*Failures; †Junked; ¶Million cu. ft. gas.

swabbing 23 barrels of oil and 2½ barrels of water in two hours.

In Barber County, Vaccars Petroleum Corporation et al's Swartz 1, SEc 30-31s-11w, northeast of Medicine Lodge, was installing equipment preparatory to starting another potential test. The first test was started nearly two weeks ago, but the hole bridged over after flowing 60 barrels of oil from the Mississippi lime at 4316 feet. This test is one-half mile north of the discovery well of the county, and appears to be good for from 1000 to 2000 barrels daily. It was pinched to 350 barrels daily when it was first brought in, but a full 24-hour potential has never been taken.

Helmerich & Payne et al's Ryersee 1, CSE 34-18s-21w, east of Ness City in Ness County, was drilling in. The lime was reported to have been found 20 feet higher in this well than at Barnsdall Oil Company's Lonk 1, CSW 35-18s-21w, which was completed in 1929 as a dry hole at 4755 feet.

In Pratt County, Stanolind Oil & Gas Company and Elwell's Fay 1, NWc SE 15-27s-14w, northwest of the town of Pratt, was drilling below 4300 feet after getting a small show of oil in the base of the Kansas City lime from 4094 to 4098 feet.

Bridgeport Machine Company's Ubert 1, NEc NW 12-13s-18w, east of the Yocemento pool of Ellis County, struck heavy black oil from 3615 to 3620 feet, which was 26 gravity. It swabbed only 12 barrels of the oil in 12 hours.

Carter Oil Company's Teubner 8, CW½ W½ NW 26-17s-9w, in the South Lorraine pool of Ellsworth County, drilled to 3188 feet in the Siliceous lime and acidized with 1000 gallons. It then pumped 229 barrels of oil in 21 hours, and was to be deepened.

Completed wells in Kansas ran ahead of new tests started during the week, 47 to 42. Of the 47 completions 39 were oil wells, two gas wells and six dry holes. Rice County led in new tests with nine. By counties the remaining new tests were Russell, 7; Reno, 5; Barton, Butler and Sumner, 3 each; Crowley and Rooks, 2 each; 1 test each in Coffee, Ellis, Ellsworth, Kearney, Marion, McPherson, Stafford and Woodson.

## NEW MEXICO Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| LEA COUNTY (Eunice Field)— | | |
| Devonian Oil Co., State-Heasley 6, C lot 3, 5-21s-36e | 2000 | 3862 |
| Gulf, State-Arnott-Ramsey 10-C, c sw ne 21-21s-36e | 1440 | 3905 |
| State-Bell 3-C, c ne nw 15-21s-36e | ¶7.3-750 | 3881 |
| Humble, State-Aggies 4, c se nw 31-20s-37e | 1000 | 3850 |
| Landreth Prod. Corp., State 2-D, c ne nw 22-21s-36e | 3500 | 3908 |
| Shell, State 1-G, C lot 11, 6-21s-36e | 1000 | 3867 |
| Sun, J. A. Akens 2, c se sw 3-21s-36e | 3500 | 3872 |
| LEA COUNTY (East Jal Field)— | | |
| Texas Co., E. D. Fanning 1, c se ne 4-24s-37e | 25 | 3701 |
| LEA COUNTY (Monument Field)— | | |
| Amerada, J. R. Phillips 2-A, c se ne 31-19s-37e | 1200 | 3905 |
| Continental, State 2-A-17, c se sw 17-19s-37e | 1500 | 4005 |
| Gulf, L. Martin 2, se se se 25-19s-36e | 360 | 3955 |
| Ohio, McGrail 1, c se sw 26-19s-36e | 3000 | 3990 |
| Repollo Oil Co., J. R. Phillips 3-B, se se nw 31-19s-37e | 312 | 3930 |

*Failures; †Junked; ¶Million cu. ft. gas.

# Work at Peak

## LEA COUNTY ACTIVE EVEN WITH MONUMENT CURTAILED

WEEKLY STAFF REPORT

**Hobbs, N. M.**—Drilling operations in Lea County have recorded substantial gains within the past three weeks, with new tests exceeding completions. The county added 20 new locations and 14 producers the past week. Development work in the Monument area continues on a normal basis in spite of the fact that its proration quota was cut 4681 barrels for the last half of September and assigned to other areas, pending restoration of the regular market outlet.

New tests announced the past week included a 5000-foot wildcat in the Four Lakes district, northwestern Lea County. Joe C. Maxwell, Inc., R. Crandall and C. H. Osmond, Fort Worth, awarded contract to Rowan Drilling Company to drill State 1, C SW NW 32-10s-34e, centering upon a block of about 7200 acres. The Fort Worth group began negotiating for the test more than a year ago, and have received cash or acreage donations from five companies that hold state permits in the area. Wildcat drilling in the county is now at a high point of the current year. In the Lovington area, Magnolia Petroleum Company's Scharbauer-Eidson 1, C NW NE 29-16s-35e, measured up at 5010 feet after qualifying for dry hole contributions pledged by Ohio Oil Company and Humble Oil & Refining Company, and will deepen until the lime yields production or water.

Southeast portion of the Monument field reported a big producer in process of completion the past week. Empire Oil & Refining Company's D. L. Laughlin 1, C NW SE 5-20s-37e, flowed at a rate of 300 barrels per hour natural between drill pipe and casing after drilling with pressure-control equipment to 3861 feet, with an elevation of 3570 feet. On the west flank of the Monument field, Ohio Oil Company's State-McGrail 1, C SE SW 26-19s-36e, responded to treatment with 3000 gallons of acid solution in lime at 3990 feet, or 322 feet sub-sea, flowing 91 barrels per hour average on 3-hour tubing gauge. The latter contributed one of the six new locations authorized for the field, having started work on Barber 4, C NE SW 5-20s-37e. Amerada Petroleum Corporation made locations for Pewitt-Anderson 1, C NE SW 8-20s-37e, and State 1-W, C SW NE 20-19s-37e. Atlantic Oil Producing Company is moving in materials to drill Crutchfield 1, C NE SE 32-19s-37e; Tide Water Oil Company's Anderson 2, C NE SE 8-20s-37e, and Gulf Oil Corporation's Whitmire 1, C SW NE 8-20s-37e, are also on the east side of the field.

No immediate relief is in sight for added production penalties borne by Monument operators since September 16 when the field's allowable was cut from 16,681 barrels to 12,000 barrels daily in order to jibe with nominations made by The Texas Pipe Line Company, which is connected to all wells except those operated by Gulf Oil Corporation. The latter is served by Gulf Refining Company, but is not in the market for oil to be purchased. The State Oil Conservation Commission diverted the production allowable lost by the Monument area to other Lea County fields, thus enabling the proration quota of non-marginal wells to be hiked from 91 to 97 barrels daily. Shell Pipe Line Corporation is reported to have indicated plans to enter Monument with a line and purchase oil in the event an early settlement is made of the labor dispute at Shell Petroleum Corporation's refinery at Roxana, Illinois.

The Eunice lime area was allotted eight locations the past week, with four operators participating. Sun Oil Company followed through with completion of J. A. Akens 2, C SE SW 3-21s-36e, flowing 100 barrels per hour through 1-inch choke after using 4000 gallons of acid at 3872 feet, by starting work on Akens 3, C SW SE 3-21s-36e, and Akens 4, C NE SW 3-21s-36e. Gulf Oil Corporation made three locations, listed as follows: State-Bell 1-D, C NW SW 6-21s-36e; State-Bell 1-E, C NW NW 11-21s-36e; and State-Leonard 4, C NW NE 22-21s-36e. Continental Oil Company and The California Company placed contracts for the drilling of A. M. Lockhart 4-B-14, C SE NE 14-21s-36e, and A. E. Meyer 3-B-18, C NW NW 18-21s-36e. On the north end of the field, Empire Oil & Refining Company's State 1-F, C SW SE 30-20s-37e, has started operations.

Continental Oil Company and The California Company's Sholes 1-A-24, C SE SE 24-25s-36e, outpost location for the southeast portion of the Jal area and due west of the town of Jal, is being drilled to comply with federal permit requirements.

Four new operations have been assigned to the South Eunice sandy-lime belt, including two for Skelly Oil Company on southeast outpost locations. The latter is to drill G. W. Sims 1, C NE NW 10-23s-37e, and W. P. Sims 1, C NE NE 10-23s-37e. Repollo Oil Company's O. J. Boyd 2, NW NW NW 23-22s-37e, and Amon C. Carter et al's Elliott 1, C NW NW 22-22s-37e, were necessitated by offset producers.

# *Cochran County*

## PERMIAN BASIN SEARCH REWARDED IN VIRGIN TERRITORY

WEEKLY STAFF REPORT

**Midland, Texas.**—Exploration work on the north end of the Permian Basin region of West Texas yielded a prospective oil producer for southeastern Cochran County early last week. Honolulu Oil Corporation and Cascade Petroleum Company's Duggan Bros. 1, C Labor 13, League 55, Oldham County School Lands, 30 miles north by east of the partnership's flowing producer in southeastern Yoakum County, looked promising as the first producer for Cochran County, in filling 1000 feet with black oil and a small amount of drilling water from lime section at 5025-5038 feet, with an elevation of 3693 feet. Operations were suspended to cement a string of 6⅝-inch pipe immediately above the oil pay, which showed best saturation at 5025-28 feet. Top of Yates sand, most reliable geological marker above the lime section, was logged at 2910 feet, or 783 feet above sea level.

The north portion of the Permian Basin has experienced an active leasing and drilling campaign since the above partnership developed flowing production on the Bennett ranch in Yoakum County early last summer. Texas Pacific Coal & Oil Company is drilling a short distance to the west of the latter producer, which was the first test in the county drilled to the lime horizon, but two other wildcats on separate blocks have since proved dry.

An important east extension for this trend play is the northwestern Dawson County wildcat of Ray A. Albaugh, Big Spring, et al's John Robinson 1, C NW Section 46, Block M, EL & Ry. Survey, which began showing 33 gravity sulphur oil early in September from saturated lime at 4958 feet, with two additional thin pay zones logged in deepening to 5000 feet. Top of lime was logged at 4567 feet, with an elevation of 3085 feet. At 4996 feet the well tested 750 feet of oil and 450 feet of salt water in 16 hours. The well is believed capable of making 50 barrels of oil daily. Albaugh et al recently sold three 80-acre leases to the west, northwest and southwest of the producer to Atlantic Oil Producing Company for a cash bonus of $20 per acre.

Scheduled drilling of a 5500-foot wildcat on the south line of Terry County and 10 miles northwest of the Dawson County producer by W. L. Pickens, Thornton Lomax Jr., and Maracaibo Oil Exploration Corporation on a block of 5200 acres has been delayed 30 days. A major company has opened negotiations to acquire a substantial interest in the test and acreage, but if the trade fails the above Dallas group propose to proceed with operations. Location is on the J. B. Lewright tract, NEc Section 1, Block C-37, PSL Survey.

In southwestern Hockley County, The Texas Company et al's Bob Slaughter 1, C SW Labor 83, League 38, Zavala County School Lands, near center of a unitized block of 6000 acres, was lowering 8⅝-inch pipe at 2910 feet. Top of anhydrite was logged at 2240 feet, with an elevation of 3560 feet. Uscan Oil Company and Illinois Oil Company's R. A. Brownfield 1, N½ Section 54, Block K, PSL Survey, situated on a 16-section block in southwestern Terry County, has cemented 8⅝-inch casing at 3634 feet. Amerada Petroleum Corporation et al's S. J. Averitt-Ohio 1-A, C NE NE Section 228, Block G, W. T. Ry. Survey, Seminole structure, Gaines County, is also waiting for cement to set after landing pipe at 2890 feet and above the first gas production logged by the offset gasser, which was junked at 4910 feet.

Prospects for an oil producer near the Texas-New Mexico border for Winkler County and two miles north of the Leck field were credited to Bert Fields, A. W. Cherry et al's L. Daughtery-Walton 1, SWc NW Section 3, Block C-23, PSL Survey, and casing will be run for a production test. Oil showings in sandy-lime zone at 3050-55 feet and 3120-40 feet were logged in drilling to 3145 feet. Top of lime was placed at 2740 feet, with an elevation of 2936 feet. Fields et al have recorded two previous extensions for Winkler County this year. Their latest strike was attained in September in completing E. W. Cowden-Pure 1, NWc, SE Section 26, Block B-5, PSL Survey, situated on a line between the Halley and Brown-Altman fields, with an initial yield of 507 barrels of oil and 10,000,000 feet of gas after shot in sandy-lime pay zone at 2890-3000 feet.

Extension of the Henderson field, Winkler County, about ½-mile to the northwest was attained last week when R. H. Henderson, Midland, et al's Daughtery 1, NEc SW NE Section 33, Block 74, PSL Survey, rated 300 barrels daily on natural production from dolomite lime at 3098 feet. An east offset is to be drilled by Joe C. Maxwell, Inc., Fort Worth.

In Ector County, Sinclair Prairie Oil Company's J. L. Johnson 1-A, NEc NW Section 42, Block 42, T&P Ry. Survey, T-1-S, 3 miles northeast of nearest production in the Foster field, was drilling below 4300 feet. It has apparently missed the upper oil and gas zones in the lime, which was topped about 85 feet higher on structure than Landreth Production Corporation's Johnson 1, northwest outpost for the Foster area.

# *New Sand Found*

## LOWER PERMIAN ZONE PRODUCES AT SAND HILLS

**San Angelo.**—Oil production from a lower section of the Permian lime zone in the Sand Hills field, Crane County, was uncovered last week by Loffland Bros. et al's J. B. Tubb-Gulf 2, SEc N½ Section 9, Block B-27, PSL Survey, after failing to make a natural producer in the regular horizon, which is found above the 4400-foot level. Saturated lime logged at 4625-4628 feet filled the hole with oil and the well cleaned itself. Owners will probably use acid and complete, as the well is considered in close proximity of the water level. Big wells were completed recently less than three-quarters of a ducer last week when Humble Oil & Refining Company and Gulf Oil Corporation-Truett Cranfill.

Gulf Oil Corporation's W. N. Waddell et al 2, second Ordovician lime test for the Sand Hills field, tested 180 feet of rotary mud with oil and 210 feet of sulphur water when formation tester was used in Simpson lime zone at 6211-6265 feet. Top of Simpson was logged at 5995 feet, or about 50 feet lower than the company's Waddell et al 1, which is flowing 35 barrels daily after plugging back from 6450 feet to 6317 feet.

The lower oil zone in the north portion of the Grace Falls district, Ward County, added a third flowing producer last week when Humble Oil & Refining Company's L. Richter 8, located on northeast line of Section 27, flowed 1774 barrels initial through casing after 180-quart nitro shot at 2850-2940 feet. Gulf Oil Corporation previously completed two producers from this zone on the E. W. Estes 640-acre lease, adjoining on the northeast. Other operators in the area are making plans to deepen wells to the second pay when results in the 2500-foot horizon are nominal. Late completions

in the upper zone includes Richardson Oils, Inc.'s Hathaway 5, which gauged 2168 barrels of oil and 3,000,000 feet of gas through open two-inch tubing after 135-quart nitro shot at 2500-2622 feet. Skelly Oil Company's Hathaway 1, responded to similar sized shot at 2470-2569 feet with a flow of 146 barrels of oil the first hour.

## WEST TEXAS

### Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| CRANE COUNTY (Gulf-McElroy Field)— | | |
| Gulf, J. T. McElroy 138 | 822 | 2995 |
| CRANE COUNTY (Sand Hills Field)— | | |
| Gulf and Cranfill, J. B. Tubb 2 | 8484 | 4391 |
| Humble, J. B. Tubb 3 | 5208 | 4410 |
| CRANE COUNTY (McCamey Field)— | | |
| Continental, Cowden 5-C | 223 | 2465 |
| ECTOR COUNTY (Goldsmith Field)— | | |
| Amerada, H. E. Cummins 1 | 458 | 4319 |
| Gulf, Goldsmith-Scharbauer 8 | 608 | 4200 |
| Phillips-Pure Oil Co., C. Cowden 6 | 2322 | 4160 |
| ECTOR COUNTY (North Cowden Field)— | | |
| Atlantic-Skelly-Tide Water, Blakeney 1-A | 508 | 4230 |
| Continental, O. B. Holt 3 | 125 | 4330 |
| Owenwood Pool No. 3, A. W. Wight 1 | 230 | 4212 |
| Sun, L. E. Wight 8-A | 564 | 4278 |
| FISHER COUNTY— | | |
| Gen'l Crude Oil Co., J. C. George 6 | 136 | 3112 |
| GAINES COUNTY— | | |
| Humble, Wales Eubank 1 | * | 6192 |
| HOWARD COUNTY— | | |
| Conoco and Group 1, Overton 12 | 1225 | 2425 |
| Settles 13-S | 545 | 1315 |
| TP Land Trust 6 | 970 | 2350 |
| JONES COUNTY— | | |
| Archer Drlg. Co., M. E. Berryhill 1 | * | 2118 |
| Knight & Ewing, J. D. Farrow 3 | 150 | 1956 |
| R. C. Parker et al, C. L. Brown 1 | * | 2458 |
| E. A. Ungren and A. J. Frazier, Jennings 11 | * | 3051 |
| PECOS COUNTY (Torborg Field)— | | |
| Stanolind-Conoco, Tippett 9-C | 31 | 515 |
| PECOS COUNTY (Wildcat)— | | |
| Cardinal Oil Co., White-Baker 1-37 | * | 1662 |
| PECOS COUNTY (Yates Field)— | | |
| Ohio, Smith-Taylor 28 | 7920 | 1637 |
| I. G. Yates 51-A | 8160 | 1535 |
| I. G. Yates 14-G | 45,744 | 1253 |
| UPTON COUNTY— | | |
| Anderson Oil Co., Burleson-Stanolind 1-A | * | 2314 |
| Dirks Bros., J. W. Robbins 1 | 999 | 2233 |
| Jerome McLester et al, E. S. Hughes 1 | 212 | 2745 |
| B. H. Nolan et al, Lane-Skelly 1 | 260 | 2088 |
| Rodman & Easter, A. S. Burleson 1 | 473 | 2187 |
| TP Coal & Oil Co., Lane 24-A | 451 | 2175 |
| WARD COUNTY— | | |
| Clyde Bradford et al, Allen 1-B | ¶1½ | 2634 |
| California, L. A. Adams 6 | 148 | 2572 |
| Durgin 41 | 210 | 2515 |
| FHE Oil Co., Maxwell 3-B | 566 | 2385 |
| Gulf, E. W. Estes 4 | ¶5-330 | 2575 |
| Hutchings 56 | 701 | 2775 |
| Humble, L. Richter 8 | 1774 | 2940 |
| Richardson Oils, Inc., Hathaway 5 | 2168 | 2622 |
| Rio Bravo, D. Olcott 11 | 723 | 2488 |
| Stanolind, W. E. Cannon 2 | 237 | 2400 |
| WINKLER COUNTY (Halley Field)— | | |
| Bert Fields et al, E. W. Cowden-Pure 1 | ¶10-507 | 3000 |
| WINKLER COUNTY (Henderson Field)— | | |
| Wahlenmaier Pet. Corp., Fred Leck 1-D | 7500 | 3084 |
| WINKLER COUNTY (Sayre Field)— | | |
| Empire, L. Daugherty 5 | 996 | 3030 |
| Gulf, L. Daugherty 9 | 1106 | 3000 |
| Humble, J. F. Howe 14 | 1160 | 2995 |
| Illinois Oil Co., State Bank-Conoco 2-B | 825 | 3141 |
| E. J. & W. L. McCurdy, McCutcheon-Pure 2 | 1473 | 2967 |
| TP Coal & Oil Co., Daugherty 14 | 970 | 2935 |
| YOAKUM COUNTY— | | |
| Lou G. Stogner and Elliott Roosevelt, Googins-Roosevelt 1 | * | 5351 |

*Failures; †Junked; ¶Million cu. ft. gas.

## NEW DEEP TEST

**Ranger, Texas.**—Seaboard Oil Corporation, Dallas, will start work shortly on a projected Ordovician lime test on a wildcat block in Hamilton County, using contractor's rotary rig that drilled the concern's L. V. Garrett 1, Erath County, which was abandoned as a failure last week in Ellenberger member of the Ordovician at 4112 feet. The latter was on a 6000-acre block about midway between Dublin and Alexander, and logged first Ellenberger at 3981 feet, with an elevation of 1305 feet.

Seaboard Oil Corporation completed two prolific gas wells early this year on its Pottsville structure in northwestern Hamilton County, and the new wildcat will be on a nearby block.

In northern Fisher County, Forest Development Corporation's A. M. Dry 1, near C SW SE Section 108, Block 2, H. & T. C. Ry. Survey, centering upon a 20,000-acre core drilled block, has suspended operations after developing salt water in drilling to 4269 feet.

## TEXAS PANHANDLE

### Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| GRAY COUNTY— | | |
| The Texas Co., C. S. Barrett 5 | 575 | 3270 |
| J. E. Williams 18 | 857 | 2858 |
| Champlin Ref. Co., D. J. McLaughlin 12 | 862 | 3050 |
| Magnolia, John Haggard 6 | 576 | 3329 |
| HUTCHINSON COUNTY— | | |
| Gulf Oil Corp.-Panhandle Ref. Co. C. L. Dial 62 | 525 | 3124 |
| Phillips Pet. Co., E. L. Snow 1 | ¶32.8 | 2690 |
| The Texas Co., R. L. Pond 8 | 375 | 2990 |
| MOORE COUNTY— | | |
| Phillips Pet. Co., Moore "66" 2 | 225 | 3430 |
| Shamrock O&G Co., Brumley-Sunray 1 | 775 | 3418 |
| WHEELER COUNTY— | | |
| DuMar O&G Co., Wallace 1 | ¶47.2 | 1805 |
| El Bar Corp., J. M. Noel 9 | 438 | 2431 |
| C. T. Palmer et al, J. Valenick 1 | ¶25.3 | 2233 |

*Failures; †Junked; ¶Million cu. ft. gas.

## NORTH TEXAS

### Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| ARCHER COUNTY— | | |
| Bob Elmore et al, O. L. Kunkel 1, sec 2419 | * | 1445 |
| Kork Kelly et al, Powell 1 | * | 1388 |
| Petroleum Producers Co., Portwood 35, sec 1281 | * | 1408 |
| COOKE COUNTY— | | |
| J. L. Anderson et al, F. A. Bruhlmeyer 3 | 314 | 2072 |
| F. A. Bruhlmeyer 4 | 94 | 2089 |
| Danciger Oil Refineries, Inc., Clint Jacobs 3 | * | 1515 |
| Denver Prod. & Ref. Co., Wilson 3 | 440 | 1994 |
| F. W. Merrick, Inc., G. A. Stelzer 12 | 1 | 840 |
| United Producers Co., R. W. Trew 5 | 24 | 1132 |
| WICHITA COUNTY— | | |
| Forbess & Golden, C. A. Mertens 1 | 8 | 721 |
| J. E. Keller et al, Waggoner Bros. 1, sec 11 | 45 | 568 |
| YOUNG COUNTY— | | |
| L. T. Burns et al, W. A. Rushing 5, sec 3401 | 60 | 908 |
| Cato Oil Co., G. B. Hamilton 1-C, sec 1393 | * | 922 |
| Hamilton Pet. Co., Jeffery 15, sec 53 | * | 854 |
| Honea & West, Stewart 1, sec 1492 | 25 | 839 |
| Lupton & McLester, J. G. Choate 1 | 317 | 3633 |
| E. C. Stovall et al, fee 18, blk 7 | 100 | 4387 |

*Failures; †Junked; ¶Million cu. ft. gas.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# *Drilling Gains*

## EAST TEXAS OPERATIONS ARE INCREASING AGAIN

WEEKLY STAFF REPORT

**Tyler.**—Drilling operations in the East Texas field are gaining in volume after reaching a low level in mid-September when only 54 rigs were in service. Survey of field work reveals 67 active operations on the current report, and sufficient number of additional tests have been authorized by majors and independents to boost development for some weeks hence.

Normally the East Texas field has averaged 100 active rigs for more than one year. A sharp decline in drilling developed during the latter part of August as a sequel to union rig builders launching a strike for a $2 hike in their daily wage scale along with other demands. The strike was only partially effective, as many of the veteran rig builders on duty refused to take part in the walk out. The strikers failed to accomplish their objective, and have resumed work.

Failure of the Railroad Commission to pass on well permit applications involving exceptions to the spacing rule during the latter part of August and early September also contributed to the decline in field work. However, the commission was generous in granting exceptions when the accumulated batch of applications were approved, and many small tracts have been granted additional tests that will result in the drilling of progressive offsets.

Upward trend of drilling has not been reflected by completion reports for the field. The current week accounts for only 32 completions, including two failures on edge leases. The same number of completions was recorded the previous week. Nine of the 30 oil producers listed for the current week failed to flow, and initial gauges were taken by swabbing or pumping.

# *Six Years Old*

## EAST TEXAS STARTS ON ITS SEVENTH YEAR

**Tyler.**—The East Texas field began its seventh year at the end of last week as a source of high gravity crude production from the Woodbine sand horizon. Accumulated production during the first six years exceeded the 1,000,000,000-barrel level by a comfortable margin. The exact figure will never be attainable, owing to the excessive quantities of unaccounted for illicit production that reached local refineries and that transported by pipe line and rail to distant markets.

First commercial production was attained by C. M. "Dad" Joiner, Dallas, et al's Mrs. Daisy M. Bradford 3, offsetting two junked holes, on Saturday, October 3, 1930, after bailing about 12 hours. The well responded with two heads of oil at 8 p. m. and again at 11 p. m. Production increased to a steady flow when a string of tubing was installed one week later, but the natural flow ceased before the end of the month, and pumping equipment was installed the following February. This original well continues to yield its proration allowable of 20 barrels daily, and has produced about 70,000 barrels of crude. Operation of the discovery well was assigned to Hunt Production Company, Tyler, on November 26, 1930, but the latter did not obtain possession until July, 1931.

Records of the Railroad Commission's proration enforcement body credits the field with 21,418 producing wells, and 70 inactive wells, with a daily allowable of 436,705 barrels. There are 16,070 wells classed as marginal producers, with an allowable of 20 barrels daily, while the non-marginal wells are permitted to produce 2.32 percent of their rated hourly flow. The latter proration factor has been in effect since June 21, 1936. Rated potentials of key wells used by the commission in apportioning production among the non-marginal wells ranges up to 1119 barrels per hour, a mark established by Humble Oil & Refining Company's H. Sexton 11-C, M. McCabe Survey, northern Rusk County, on official gauge last April 12.

There are approximately 1100 separate companies and groups of individuals now operating properties in the field, with an aggregate of about 3700 leases, which vary in size from a derrick site to 906.98 acres. Accounted for wells that are pumped or agitated total about 2800 feet, but a large number of wells are operated by means of air or gas lifts and also by swabbing. Owners are reluctant to make the necessary expenditures in reconditioning such wells so as to restore the natural flow, or to install lifting equipment, as long as the proration allowable can be taken from more favorably situated wells connected to the same tank battery.

Original reservoir pressure in the East Texas field at a sub-sea depth of 3300 feet amounted to 1620 pounds, according to calculations by engineers. The average bottom-hole pressure, as determined by the commission on report made September 12, was placed at 1183.5 pounds, representing a decline of 3.5 pounds as compared to the previous month, and a loss of 17.3 pounds since last January 12.

## EAST TEXAS Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| JOINER AREA— | | |
| C. L. Archer et al, J. H. Stewart 2 (72-ac) | 8000 | 3762 |
| Humble, R. A. Barksdale 12-A | 6000 | 3799 |
| Hunt Prod. Co., R. W. Fair 28-C (211.4-ac) | 11,000 | 3635 |
| KILGORE AREA— | | |
| Gulf Oil Corp., C. Brown 45 (263.52-ac) | 8000 | 3644 |
| R. M. Griffin 12 (65.64-ac) | 9000 | 3606 |
| W. G. Sexton 19 (165.58-ac) | 7200 | 3680 |
| R. H. Still 19 (188.38-ac) | 800 | 3598 |
| Humble, J. A. Knowles 20 (100-ac) | 6000 | 3611 |
| Roger Lacy et al, M. Douglas 3 (3½-ac) | 8500 | 3578 |
| Lawson, Lacy & Mrs. Mable Riley (was A. L. Johnson), Irion 3 (8.01-ac) | 6000 | 3814 |
| T. W. Lee & Williams, Carter 5 (64-ac) | 500 | 3604 |
| Magnolia, N. Utzman 10 (87½-ac) | 50 | 3500 |
| Rozel Oil Corp., A. L. Still 2-C | 60 | 3556 |
| Sinclair Prairie, A. A. King 10-B, Tr. No. 3 (52-ac) | 5000 | 3413 |
| Tauble & Lyons, S. J. Richards 6-B. | * | 3562 |
| Volunteer Dev. Co. (A. A. King-Joe Schulman), J. C. Still 1 (5.27-ac). | 120 | 3552 |
| John Wrather-G. D. Painter, G. H. Morris 4 (10-ac) | 750 | 3686 |
| LONGVIEW AREA— | | |
| Arkansas F.O. Co., J. D. Davis 5 (30.8-ac) | 5500 | 3595 |
| Gregg Oil Co., TP Ry. 2-A | 8400 | 3475 |
| Hester & Silvey, F. P. Branson 3 (21.11-ac) | 120 | 3563 |
| Thos. D. Humphrey, L. M. Baker 3 (60-ac) | 35 | 3670 |
| S. H. Killingsworth Oil Co., A. Callahan 8 (37.84-ac) | * | 3676 |
| L. & G. Oil Co., T. W. Lee 3 (36.82-ac) | 450 | 3592 |
| Nivla Oil Corp., Morgan 2 | 50 | 3719 |
| Stanolind, A. A. Castleberry 11 (77.44-ac) | 1500 | 3598 |
| F. Smith 11 (69.83-ac) | 7600 | 3575 |
| H. Stephens 11 (57.77-ac) | 9700 | 3618 |
| Stanolind-Tide Water, P. C. McGeorge 13 (95.8-ac) | 8500 | 3492 |
| Stanolind-Tide Water-Conoco, Flewellen 25-C (400-ac) | 2500 | 3733 |
| Sun Oil Co., J. C. Gray 13 (101½-ac) | 50 | 3657 |
| E. F. Johnson 6 (81.26-ac) | 50 | 3594 |
| United E&W Oil Co., E. L. Walker 9 (62-ac) | 6000 | 3607 |
| TITUS COUNTY (Talco Field)— | | |
| B. G. Byers & Stevens, Mrs. L. Blackburn 1 (16.8-ac) | 1700 | 4305 |
| W. B. Hinton et al, C. M. Carr 2-B (56.38-ac) | 190 | 4325 |
| Humble, N. B. Davis 2 (102.1-ac) | 90 | 4322 |
| A. P. King-Hughes 14 (1053.36-ac) | 700 | 4320 |
| Monnig Dry Goods Co. 1 (80-ac) | 1200 | 4294 |
| Luse-Fosdick Drlg. Co., Nugent 1 (2.3-ac) | 180 | 4335 |
| Nivla Oil Corp., C. Wyatt 1, lot 4, blk 30 | 315 | 4350 |
| J. I. Roberts Drl. Co., T. A. Sims 1, lot 3, blk 19 | 185 | 4345 |
| VAN ZANDT COUNTY (Van Field)— | | |
| Humble O&R Co., L. V. Freeman 5 (31½-ac) | 23 | 2955 |
| J. G. Luther 3 (32-ac) | 5 | 1252 |
| Pure Oil Co., Mrs. C. White 5 (45-ac) | 101 | 2982 |
| Mrs. C. White 6 (45-ac) | 46 | 2955 |
| FANNIN COUNTY— | | |
| Schrivner & Clower, E. Parkhurst 1 | * | 1322 |
| Styles & Smith, R. Stewman 1 | * | 520 |
| HENDERSON COUNTY— | | |
| Atex Oil Co.-H. L. Parsons, H. L. Wyatt 1 | * | 4932 |
| LIMESTONE COUNTY— | | |
| C. F. Lytle et al, J. L. Thompson 1-T | * | 6059 |

*Failures; †Junked; ¶Million cu. ft. gas.

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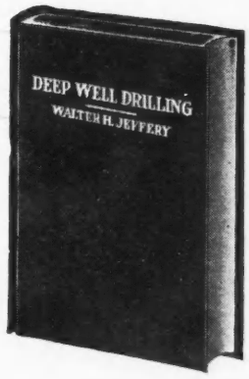


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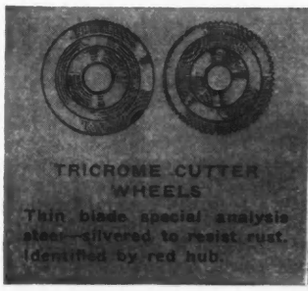


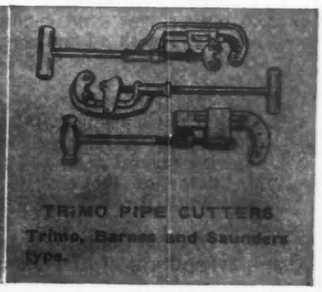

# *New Nueces Field*

## DRILL PLUGS ON TEST 1½ MILES FROM AGUA DULCE

WEEKLY STAFF REPORT

**Corpus Christi.**—A new field for Nueces County headed the list of events in the developments of the Coastal sector of South Texas during the week. San Patricio, Jim Wells, Victoria, Jackson and Calhoun County wildcats were at interesting levels and several were testing sands.

Texon Drilling Company's Helen Philibert Austin 1, is preparing to drill plugs after setting casing atop sand at 5675-80 feet, which tested 400 feet of oil and 100 pounds pressure. The well is in the northwest corner of Share 2, W. W. Chapman subdivision of the Palo Alto Grant, 1½ miles southwest of the Agua Dulce field. It is several locations southeast of Mable Eliff 1, A, Longria Survey, which several months ago drilled to 6547 feet, plugged back and perforated at 5735-41½ feet. This well showed for a producer, Christmas tree was erected and the well closed in to move the rig to the Austin location. Rig will be moved back and the Eliff well placed on production.

### San Patricio Mystery

A mystery well in southern San Patricio County is holding considerable attention. Eleanor Oil Company's William Kline 1, Lot 5, Block C, Coleman Fulton Pasture Company subdivision, 2½ miles southeast of Gregory, found sand around 6600 feet, set casing and was preparing to complete. A bad cement job made recementing necessary. This company has moved in derrick and is preparing to commence W. W. Toland 1, about 8000 feet north of the above well. No details are available on either well.

Callaway, Crosby and Porter's White Point Development Company 1, deep test in the White Point field, San Patricio County, drilled to its contract depth of 6500 feet and has plugged back to complete in 4900-foot sand where it first showed for an oil producer. The sand section was encountered from 4900-73 feet, but the first 36 feet carried the most saturation.

### New Sand Salt

Portilla Oil Company's R. H. Welder 2, in the Hughes field, Victoria County, which originally was completed at 4915-20 feet to open a new sand, made considerable salt water with oil and was deepened. It is testing just below 5310 feet in another sand.

In the northern portion of the county, Plymouth Oil Company's J. J. Welder 1, Belding Survey, is reaming at 5842 feet, after having several good gas sands. Also in this sector of the county, Plymouth Oil Company's R. H. Welder 1 has been spudded.

Camp Drilling Company's Jane Schallert 1, 2½ miles west of Bentonville field, Jim Wells County, made a drill stem test at 5032-45 feet, where it showed 475 pounds pressure in six minutes through ¼- and ⅜-inch chokes and is now drilling ahead below 5165 feet.

Two miles west of Premont field, also Jim Wells County, Gist and Graddy's F. Bennett 1 has been taken over by Tom Graham for completion. The well is in sand at 2340-50 feet with casing set.

### Progress in Shale

Progress is being made in two heaving shale projects in Calhoun County, Continental Oil Company's Austin 1 is drilling at 8650 feet in sidetracked hole, while Hiawatha Oil Company's Roemer 1 is down 7656 feet.

Humble Oil & Refining Company and Plymouth Oil Company apparently have a failure in the Heyser field of Calhoun County. P. H. Welde 3-B, made a drill stem test after perforating at 5469-73 feet, the result being 200 pounds pressure, 540 feet of salt water and 10 feet of oil in 25 minutes through ¼- and ⅜-inch chokes.

Steinberger Petroleum Corporation's Drushell 1, deep test in the Edna area of Jackson County, lost bit in bottom of hole at 7180 feet. As soon as it is recovered, the well will be cored to 7200 feet then plugged back to test at 7136-44 feet in the Cockfield.

### Flour Bluff Hot Spot

Flour Bluff field, Nueces County, is rapidly coming into the play as the hot spot development area. A number of small blocks and offset leases held by outside companies apparently will keep Humble Oil & Refining Company and its associates, Barnsdall Oil Company and Flour Bluff Oil Corporation, busy. Several more wells cored the sand during the week, bringing additional offsets.

Barnsdall Oil Company's Weil 1, between the Saxet Heights and Saxet field, is coring at 4757 feet. It is a key test for this area. About 3000 feet south of Saxet production, W. A. R. Oil Company's Mrs. Bertha Buckholt 1, Share 4, made a drill stem test at 4563-70 feet where it recovered 300 feet of oil and 30 pounds pressure. The well took several more cores, going out of the sand at 4574 feet and stopping in shale at 4585 feet. It has set casing on bottom and will perforate for production. This virtually ties the Saxet field and the Buckholt area together. The latter pool has two wells around 3300 feet.

Wellington Oil Company and Pan American Production Corporation extended the Clara Driscoll field, Nueces County, one-half mile to the southeast with Clara Driscoll Sevier 1-A. The well is complete in sand at 3812½-17 feet, but no gauge is available.

# *Field at Foley*

## TWENTY-FOOT PETTUS SAND SECTION IS SATURATED

**Beeville.**—Pettus trend again looks toward a development campaign with several new discoveries providing offsetting campaigns. Foley field, Bee County, was apparently added to the list during the week with casing being set on a 20-foot section of Pettus sand. A couple of Goliad County wells also were testing sands, and possibly will open new producing areas.

Miller-Donzis Oil Company's A. M. Holzmark 1, S. May Survey, 1320 feet north of the discovery well of the Foley field, Bee County, found saturation in the Pettus sand at 4081-4101 feet. A drill stem test developed 250 pounds pressure and 20 feet of high gravity oil, following which casing was set atop the sand. The discovery well is in the Hockleyensis sand slightly more than 600 feet shallower, where it is making considerable gas and a small volume of high gravity oil.

Several locations have been made in the immediate vicinity of the well. The most important is Dirks Brothers' A. M. Holzmark 1, S. May Survey, 2000 feet to the east of the new discovery.

The California Company's Langrebe 1, northeastern Goliad County, drilled to 5022 feet, plugged back to 4859 feet, tested salt water, then plugged back again to test at 4807 feet, where it is bottomed in seven feet of sand. A drill stem test at this level showed considerable oil and gas. Several miles to the southeast, Felmont Corporation's Mrs. W. O. Maetze 1, plugged back from 5600 feet to 3498 feet and will perforate in sands at 3420 feet and 2900 feet.

Bostex Oil Company's Welden & Lackey 1, J. Gomez Survey, Goliad County, has been completed for 100 barrels of oil per day with some water through ⅛-inch choke showing tubing pressure of 640 pounds and casing pressure of 1400 pounds. The well drilled to 3960 feet, plugged back and perforated casing at 3833-42 feet. It opens a Yegua sand area on the southeast side of the North Pettus field.

There has been quite an upturn in wildcatting through the entire Pettus district, the majority of it centering around central Bee County.

# SOUTH TEXAS

## Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| ATASCOSA COUNTY— | | |
| Atascosa Trust, U. A. Doumch 1, 300 ft el, 160 ft sl of blk 10, J. T. Russell sur 122, 3 mi n Poteet... | * | 4012 |
| BEE COUNTY— | | |
| Humble, C. S. Page 1, T. K. Pillkington sur (Voss) ..... | * | 4061 |
| Sure Oil Co., N. L. McKinney 1, 330 ft el, 1237 ft sl of J. W. Williamson sur, 78.79-ac tr..... | * | 4245 |
| BEXAR COUNTY— | | |
| W. R. Swearingen, Franz Woefler 1, 550 ft sel (road), 160 ft swl 70-ac tr Jose de la Garza sur ..... | * | 1571 |
| CALDWELL COUNTY— | | |
| Louis Crouch, J. J. Davis 2, Adolphus Floyd sur (Salt Flats) .... | 25 | 2703 |
| Willyn Oil Co., Mrs. M. L. Brewer 1, Burleson sur (Lytton Springs) | 50 | 1466 |
| DUVAL COUNTY— | | |
| Atlantic, J. F. Welder heirs 10-E, sur 381 (Seven Sisters) ..... | 95 | 2429 |
| Bridwell Oil Co., Wm. Hubberd 7-D, sur 73, (Loma Novia) ..... | 160 | 2547 |
| Wm. Hubberd 8-D, sur 71 (Loma Novia) ..... | * | 2825 |
| Sutherland 3, sur 122 (Hoffman) perf 2715-19 ..... | 315 | 2738 |
| Cox & Hamon, Peters 3, Mary Chatham sur 322 (Lopez) ..... | 495 | 2130 |
| Tom Graham, Sutherland 2, 300 ft sl and wl of ne¼ sur 188 ..... | * | 2713 |
| Humble, Hubberd 50-B, sur 72 (Loma Novia) ..... | 320 | 2783 |
| Smith 28, sur 382 (Seven Sisters) | 635 | 2467 |
| Vela 15, TT RR sur 42 (Loma Novia) ..... | 365 | 2770 |
| Wright 11, sur 118 (Seven Sisters) ..... | 345 | 2502 |
| Ed Leach, Serna 2, BS&F sur (Seven Sisters) ..... | 165 | 2198 |
| Magnolia, Brennan-Benavides 41, blk 351, Hale subd, Arispe gr (Cole).. | 45 | 2751 |
| Johnson 11, sur 44 (Gov't Wells) | 40 | 2330 |
| Peal 13, sec 383 (Lopez) ..... | 575 | 2164 |
| G. G. Mortimer, Peal 5-B, sur 796, (Lopez) ..... | 590 | 2177 |
| Pan American Prod. Co., J. F. Welder 2-B, sur 102 (Seven Sisters).. | 240 | 2486 |
| Reliance Oil & Roy. Co., C. O. Drummond 6, sur 308 (Seven Sisters) ..... | 490 | 2551 |
| Shell, Welder 1-B, sur 69, 300 ft sl and wl of 79.3-ac lse ..... | * | 3242 |
| Wellington Oil Co., Welder 3-D, sur 381 (Santa Clara) ..... | 280 | 2392 |
| FRIO COUNTY— | | |
| Amerada, Michael 2, A. Lynch 321 (Pearsall) ..... | 450 | 5660 |
| Miller 1, B. Satello sur (Pearsall) | 750 | 5721 |
| GOLIAD COUNTY— | | |
| Bostex Oil Co., Welden & Lackey 1, J. Gomez sur (N. Pettus) perf 3833-42 ..... | 400 | 3960 |
| GUADALUPE COUNTY— | | |
| Pat Armstrong, Fulcher 3, 150 ft nwl, 220 ft most sw nel (Creek) of tr, Robt. Smith sur ..... | * | 2477 |
| HIDALGO COUNTY— | | |
| Harrison-Danvers, Uvaldo Villalon 1-C, sh 252, porc 39, J. of Reynosa (Samfordyce) ..... | 300 | 2982 |
| Henshaw Bros., F. B. Guerra 1, sh 254, porc 39 (Samfordyce) perf 2824-32 ..... | 400 | 2980 |
| McMULLEN COUNTY— | | |
| Agarito Oil Co., H. L. Lark 3, E. W. B. Scrugham sur (Jacob).... | 95 | 953 |
| Loma Oil Co., L. Jacob Corp. 44-A, Jacob sur 10 (Jacob) ..... | * | 3171 |
| MEDINA COUNTY— | | |
| G. N. Whitting, Hondo Nat. Farm 1, 364 ft wl, 284 ft el, 240 ft wl of 24-ac tr, sec 214 ..... | * | 1505 |
| NUECES COUNTY— | | |
| R. B. Bryant, Frank 3, sur 416 (Saxet) ..... | 672 | 5837 |
| Scoggins 2, sur 316 (Saxet..... | 264 | 4572 |
| Conroe Dr. Co., Bliss 6, Stevens sur (Saxet) perf 5823-27 ..... | 1150 | 5831 |
| Cox & Reed, Priour 2, Bancroft Farm Lot 9 (Saxet Heights)..... | 250 | 4073 |
| Houston Oil Co., Fee 1, sur 582 (Saxet) ..... | 770 | 5830 |
| McGregor 7, sur 311 (Saxet) ... | 790 | 5830 |
| North Star Oil Co., Morgan 9, sur 405 (Saxet) ..... | 680 | 5830 |
| Pan American Oil Co., Morgan 2-D, sur 405 (Saxet) ..... | 555 | 4101 |
| Sagarin 1-A, CEIP&M sur (Saxet) perf 5830-34 ..... | 745 | 5839 |
| Port Oil Co., Aaron Cohen 4, Villareal Gr (Saxet Heights) ..... | 275 | 4087 |
| Renwar Oil Corp., Rand Morgan 2, J. R. Ward sur 592 and GC&SF sur 315 (Saxet) ..... | 265 | 4575 |
| Guarantee Title & Trust Co. 5, blk 29, lot 13, Villa Gardens add., (Saxet Heights) ..... | 430 | 4081 |
| Reesto Dr. Co., Frank Harmon 1, sur 416 (Saxet) ..... | 720 | 5845 |
| Rico Oil Co., Ed Whelan 1, Villareal gr (Saxet Heights) ..... | 370 | 4075 |
| REFUGIO COUNTY— | | |
| Josey & Burton, M. F. Lambert 2, J. M. Swisher sur 5 (Tomoconnor) . | 1180 | 5796 |
| SAN PATRICIO COUNTY— | | |
| Centennial, Chilipitin Creek 4, bed tr 3, Welder Ranch sub (Plymouth) perf 5608-12 ..... | 475 | 5617 |
| Conroe Dr. Co., G. W. Pullin 3, lot 4, sec 1, 2nd add ..... | 915 | 4083 |
| Plymouth, Welder 63-C, sec 50, Welder Ranch sub (Plymouth)..... | 680 | 5530 |
| Welder 2-D, 1250 ft wl, 2131 ft nl, sec 1, Welder Ranch sub ..... | * | 6500 |
| Trinity Drillers, Mayfield 1, 153 ft wl, 237 ft nl of lot 11, Roos sub..... | * | 6010 |
| STARR COUNTY— | | |
| Fech Oil Co., Davis 1, sh 78, porc 81, J. of Camargo (Rio Grande City) ..... | 2 | 1399 |
| VICTORIA COUNTY— | | |
| American Liberty Oil Co., Cortez 4, Brownson sur (Placedo) ..... | 460 | 4768 |
| Commonwealth O&G Co., F. E. Parencia 3, J. M. Brownson sur (Placedo) ..... | 385 | 4780 |
| Marlan Oil Co., Houston Nat'l Bank 1, SA&MG sur (Placedo) ..... | * | lcn. |
| WEBB COUNTY— | | |
| Mills Bennett Prod. Co., M. Lopez 8, sur 73 (Lopez) ..... | 490 | 2517 |
| Porter & Blanchard, S. Benavides 1-B, blk 316, Hale sub, Arispe gr (Cole) ..... | 435 | 2897 |
| T. S. Reed, Benavides 3, blk 247, Hale sub, Arispe gr (Cole)..... | * | 3060 |
| ZAPATA COUNTY— | | |
| Gilcrease Oil Co., Haynes 3-C, blk 8, Villa & Comitas gr (Comitas) .... | 25 | 992 |
| A. P. Haynes 7-B, blk 4, Villa & Comitas gr (Comitas) ..... | 25 | 990 |
| G. E. Heye, Garza 1, blk 11, Douglas sub, Zorro Ranch, Comitas gr (Escobas) perf 1249-58 (owwo)..... | 50 | 1391 |
| J. P. Nash, Trustee, Haynes 21, blk 2, Haynes sub, Comitas & Villa gr (Comitas) ..... | * | 940 |
| Haynes 22, Comitas gr, (Comitas) | 32 | 961 |
| Nordan & Morris, Haynes 11-A, blk 7, Haynes sub, Comitas & Villa gr (Comitas) ..... | 62 | 1041 |

*Failures; †Junked; ¶Million cu. ft. gas.

# NEW VALLEY STARTS

**McAllen.**—Brooks County's wildcatting play on salt dome prospects received two more locations during the week, both by major companies. The California Company's Mestinas Oil & Gas Company 1 has moved in rig for a deep test. The well is 4840 feet from the north line and 4185 feet from the east line of the B. Garcia tract No. 5, La Mestina de Gonzalina grant, west of Garcia 1, completed recently for 50 barrels per day through perforations at 2459-77 feet. They are on the Alta Mesa prospect. Magnolia Petroleum Company's Ed. Lasater, S. Korkill Survey No. 440, is moving in.

In Hidalgo County, several deep wells are at interesting levels. Pantana Petroleum Corporation's R. E. Harding 1, near La Blanca, is coring ahead at 7530 feet. It had distillate sands at 7074-79 feet and 7489-7509 feet. Union Sulphur Company's American 10, in the Mercedes field, is coring below 8265 feet.

Davenport and Slick-Urschel's T. B. Slick Estate 1, Section 485, 20 miles northeast of Rio Grande City, is reaming for a drill stem test of a sand at 3835-55 feet, the hole being bottomed in shale at 3856 feet.

# WILDCATS DISAPPOINT

**Laredo.**—Disappointing results were obtained in several Mirando District wildcats. The week's completions, however, did include minor extensions to present producing areas.

Mills Bennett Production Corporation's Ira G. Yates 1, in the Labbe field, Duval County, drilled to 3503 feet in sidetracked hole and has been abandoned. Another test is planned immediately.

Pan American J. F. Welder 1-H, 1 mile southwest of the Loma Vista field, Duval County, is still cleaning out to test at 2863 feet in plugged back hole, while Shell Petroleum Corporation's Welder 1-B, 1¼ miles southwest of the field has been abandoned at 3242 feet. Same company abandoned Taylor 1, 1 mile northeast of Loma Novia field.

In the eastern portion of the county, E. R. Thomas et al's Atlee Parr 1, Section 26, has been abandoned at 4724 feet.

T. S. Reed's S. Benavides 3, Block 247, in the Cole area, failed to make a producer in the 2900-foot sand and was abandoned at 3060 feet.

South offset to the discovery well of the Colorado field, Jim Hogg County, was testing an oil sand at 2988½-95½ feet, but did not look too good. It showed oil and mud on the first test and likely would be cored deeper before testing again. The well is J. H. Meek, Trustee's Martinez Estate 2.

# MINOR EXTENSIONS

**San Antonio.**—Several minor extensions were provided to Balcones Fault zone fields during the past week. While none of them were of great importance, they tend to increase interest in the Austin chalk development along this trend.

W. C. Campbell et al's Katie Lay 1, 850 feet east of the South Darst Creek field, Guadalupe County, topped Austin chalk at 2381 feet, drilled to 2393 feet, in saturation, and set casing. A rather hot play among independent operators has been commenced along this trend, several locations being announced along trend and deals completed for at least two more wells in the general area.

Amerada Petroleum Corporation added a new producer in the Pearsall field, Frio County, through the completion of No. 1 C. A. Miller, which flowed 189 barrels of oil in eight hours through 20/64-inch choke under tubing pressure of 250 pounds and casing pressure of 300 pounds. It is bottomed at 5721 feet after topping the chalk at 5421 feet. Thornton Davis et al's Halff and Oppenheimer 1, one mile northeast of the chalk production in this field, is preparing to drill ahead from 5335 feet after plugging back from 5433 feet. It cemented back into the casing to cut off water and is drilling ahead again. It likely will drill a directional hole in effort to find better saturation than on the first attempt.

Red Bank Oil Company's Nellie Gramm 1, on the Chreisman prospect in Burleson County, is drilling at 5063 feet. It is being closely watched as this is one of the key deep prospects along the Balcones fault zone. Another deep prospect being tested is in Bastrop County, south of Smithville. Paul C. Teas' Vinklarek 1, Millet League, drilled to 5049 feet and is laying new water lines. The well likely is in Taylor marl at this depth. It is projected to 7500 feet of Edwards lime.

# *Amelia Area Strike*

## FIRST PRODUCTION NORTH OF FIELD IS FOUND

WEEKLY STAFF REPORT

**Houston.**—First commercial oil production on the north side of the Amelia field, extensions to proved areas, and the killing of Republic Production Company and Houston Oil Company's Brooks 1 at Silsbee in Hardin County, held the interest of operators in the Texas Gulf Coast the past week.

The first commercial oil production was found north of Amelia field, Jefferson County, by Glenn H. McCarthy's Longe 2-A, H. Williams Survey, 165 feet southeast of Longe 2, which cratered and caught fire. Longe 2-A was completed at 6005 feet after setting 4 feet of screen in sand from 6001 to 6005 feet, making 13 barrels per hour. On the first 12-hour gauge it made 155 barrels of 29.1 corrected gravity oil through ¼-inch choke. Tubing pressure was 2100 pounds and casing pressure was 2400 pounds.

Glenn H. McCarthy made location for Longe 1-A in the Amelia area. It is 150 feet out of the southeast corner of the Longe 100-acre tract in the H. Williams Survey.

Stanolind Oil & Gas Company, Shell Petroleum Corporation and Sun Oil Company hold acreage in this area and probably will start development soon. Some men are of the opinion that the strike in Longe 2-A is on an entirely different structure than the regular producing horizon. Longe 2-A is producing a different gravity oil and from a different depth than wells at Amelia.

The second failure at the new Cotton Lake field, Chambers County, was made when Humble Oil & Refining Company abandoned Dutton 1, east of the discovery well, in Ben Winfree Survey, at 6664 feet. The well cored salt water sand in the Marginulina formation. Salt water was encountered from 6360 to 6370 feet. Humble Oil & Refining Company was rigging up on N. Howard 1, offset to the discovery well.

East offset to the discovery well, Glenn H. McCarthy's Kilgore 3, J. Townsend Survey, was making a drill stem test at 6330 feet in the Marginulina formation. Five-inch casing was set at 6331 feet in oil sand. Sands will be tested from 6323 to 6333 feet.

Glenn H. McCarthy made location for Kilgore 4 at Cotton Lake last week. It is 300 feet north and 100 feet east of Kilgore 1, the discovery well, in the J. Townsend Survey.

### New Dickinson Sand

Pan-American Production Company's Craig 1, east of production at Dickinson (Gillock) was completed the past week, making 8 barrels per hour from 8300 feet, opening a new producing horizon for this area. The hole was originally bottomed at 8629 feet, where salt water sand was encountered. The hole was plugged back to 8275 feet and was drilled out to 8300 feet. Oil sand showed on an electrical logging device from 8325 to 8350 feet. The well came in flowing pipe line oil at the rate of 8 barrels daily through ⅛-inch choke with a tubing and casing pressure of 1000 pounds. The extension test is shut in for storage. This is Pan-American Production Company's first strike on the Texas Gulf Coast, and it is understood that the operators will drill 5 or more wells on the Craig tract in the W. K. Wilson Survey.

About 1800 feet northwest of production at Dickinson (Gillock), Humble Oil & Refining Company was waiting on cement to set in Maco Stewart A-10, W. K. Wilson Survey, at 8707 feet. Sand and shale showing oil was encountered at 8683 feet, and 7-inch casing was cemented at 8696 feet. If the well is a commercial producer it will be the second well to make oil from the 8700-foot sand at Gillock. Humble Oil & Refining Company's Maco Stewart A-9 discovered the same about two months ago.

Humble Oil & Refining Company has made location for Maco Stewart A-11 in the W. K. Wilson Survey. It is 933 feet northwest of Maco Stewart A-9 and 933 feet southeast of Stewart A-10.

On the southeast flank of Clay Creek field, Washington County, Sun Oil Company has evidently discovered a new deep sand in Lauter 1. At 7445 feet, 7-inch casing was set, with the hole bottomed at 7455 feet. The cement was drilled and the well carried to 7471 feet after topping oil sand at 7455 feet. It has been reliably reported that Sun Oil Company and Strake Petroleum Corporation have leased over 3000 acres in this area, paying $300 per acre cash and $300 per acre out of oil. Lauter 1 has been shut down at 7455 feet for some time, and it was also reported that Sun Oil Company had seven lease brokers in the area.

Harrison & Abercrombie's Armstrong Plantation 1 at Old Ocean in Brazoria County, the deepest commercial producer in the world, is flowing at the rate of 274 barrels of 54 gravity oil daily through ¼-inch choke from 9963 feet. Tubing pressure was 3450 pounds.

Republic Producing Company and Houston Oil Company's Brooks 1, discovery well for the Silsbee field, Hardin County, which blew out, caught fire and cratered at 8:21 p.m. August 7, was extinguished at 1:30

## TEXAS GULF COAST Completions

| Company, Well and Location | Init. Prod. Bbls | Depth |
|---|---|---|
| AMELIA— | | |
| Glenn H. McCarthy, Longe 2-A... | 300 | 6105 |
| ANAHUAC— | | |
| Humble, Tyrell 13 ..... | 600 | 7081 |
| White B-5 ..... | * | 7224 |
| CLEVELAND— | | |
| Gulf, McDonnald 3 ..... | 375 | 5880 |
| CONROE— | | |
| Alpha Pet. Co., Falvey 2 ..... | 504 | 5125 |
| Strake Pet. Corp., Keystone Mills 13 | 513 | 5021 |
| COTTON LAKE— | | |
| Humble, Dutton 1 ..... | * | 6664 |
| DAMON MOUND— | | |
| Cron & Gracey, Munson 1 ..... | * | 3113 |
| DICKINSON— | | |
| Pan American Prod. Co., Craig 1.. | 212 | 8300 |
| FAIRBANKS— | | |
| Amerada-Stanolind, Carpenter 1.... | 291 | 6860 |
| MYKAWA— | | |
| West Prod. Co., Irwin 10..... | * | lcn. |
| OLD OCEAN— | | |
| Harrison & Abercrombie, Armstrong Plantation 1 ..... | 274 | 9963 |
| PIERCE JUNCTION— | | |
| A. W. Crosby, Cain B-2 ..... | * | 5300 |
| SOUTH HOUSTON— | | |
| Stanolind, Schwarz 4 ..... | 383 | 3936 |
| TOMBALL— | | |
| Humble, Hoffman 4 ..... | 504 | 5589 |
| WHARTON COUNTY— | | |
| Pure Oil Co., Duffy 1, Blue Basin prospect, E. T. R. R. sur ..... | * | 6475 |

*Failures; †Junked; ¶Million cu. ft. gas.


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THE WATSON-STILLMAN COMPANY
ROSELLE, NEW JERSEY

a.m. October 2. Brooks 1 was drilled to 6971 feet, and 7-inch casing was cemented at 6948 feet. After coring to 6981 feet and making a drill stem test from 6945 to 6981 feet and while coming out of the hole the well blew out August 5, making oil and gas. Soon after the well blew out, it started cratering, and two days later caught fire.

Republic Production Company and Houston Oil Company fought the well with nearly every means of fire fighting, and rigged up Brooks 2, a relief well, about 800 feet north of the burning well. The relief well was spudded August 17 and set 20-inch casing at 63 feet, 16-inch at 120 feet, and 10-inch at 1509 feet. The crew started deviating at 2099 feet. Gas sand was cored from 6904 to 6911 feet and from 6921 to 6933 feet. At 7011 feet the crew ran an electrical logging device. Oil sand was logged from 7011 to 7018 feet. Seven-inch casing was set at 7026 feet after drilling to 7052 feet, and being only approximately 4 feet from the bottom of the hole made by Brooks 1.

An oil well surveying company started pumping mud and water into the hole 6:00 a.m., October 1 and in 23 hours had killed the burning well.

Republic Production Company and Houston Oil Company were preparing to recement the relief well and complete it. Poor recovery was received from cores taken in the relief well.

On the southwest side of the Cleveland field, Liberty County, Gulf Oil Corporation Completed McDonald 3, D. Smith Survey, flowing at the rate of 375 barrels per day through a ¼-inch choke with a tubing pressure of 1200 pounds and a casing pressure of 1700 pounds. The well was completed at 5880 feet.

Humble Oil & Refining Company's Tyrell 13, H. & T. C. Survey, Section 52, east of Tyrell, 12 which was a dry hole, was completed at 7081 feet for 25 barrels of 34 gravity oil per hour through a ¼-inch choke. Tubing pressure was 950 pounds.

Another failure was reported at Blue Basin prospect last week when Pure Oil Company completed Duffey 1 as a dry hole. The well was abandoned at 6475 feet in sandy shale and was running considerable lower structurally than other wells drilled in the Blue Basin area.

The Texas Company made location for Pierce Estate B-4 in the eastern portion of the Withers (Five Corners), field Wharton County. It is in the A. H. Pierce Survey, Section 8. Texas Crusaders Oil Company also make location at Withers. The operator's Kaubbla 1 is in the G. C. Gifford Survey.

At El Campo in Wharton County, Barnett Petroleum Corporation made location for Board 1. It is 333 feet from the north line and 1320 feet from the west line of the NW¼ of J. M. Morford Survey, Section 4 and a 160-acre tract. It is approximately 2½ miles southeast of Elcampo.

On the Spanish Camp prospect in Wharton County, Felmont Oil Corporation's General Mitchell 1, D. Wade Survey, blew out last week at 5920 feet and cleaned the hole of mud. It showed a large gas pressure but operators were unable to determine where the gas was coming from. The well will probably be drilled down to 6500 feet the contract depth and an electrical logging device will be run.

Burton Drilling Company's Cooling 1 on the north side of the Manvel field, Brazoria County, was flowing approximately 35 barrels of oil daily through a ¼-inch choke with a tubing pressure of 100 pounds. The well was drilled to 4060 feet and 7-inch casing was cemented at 4040 feet. Top of the oil sand was encountered at 4026 feet. The well is an offset to The Texas Company's operations on the Smith tract.

Sun Oil Company's Long 2, J. W. Blair Survey, 4000 feet west of the Nome field, Jefferson County, was killed for the third time after sand cut connections loose. The well was drilled to 6056 feet in sandy shale. The first shale showing oil was encountered at 5926 feet. Sand showing oil was encountered at 6048 feet. Seven-inch casing was cemented at 5988 feet.

Shell Petroleum Corporation's Paggi 1, south offset to the discovery well, Nome field, Jefferson County, was also having trouble with sand conditions. The operators tried a production test at 6006 feet and sand cut the connections in two. The well was killed and will be reworked.

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**Austin.**—The State of Texas has filed suit in the Fifty-Third District Court in an attempt to recover eight tracts of land out of the Anahuac field in Chambers County.

The suit was brought against the Humble Oil & Refining Company and others, and is styled State vs. H. A. Gripon et al. There are 36 parties listed as defendants.


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# *Jennings Comes Back*

## OLD COASTAL FIELD ADDS SUBSTANTIAL NEW RESERVE

**Lake Charles.**—Marginulina production was discovered on the southwest side of the Jennings field, Acadia Parish, last week when Superior Oil Producing Company completed Leckelt 1, Section 42-9s-2w, flowing pipe line oil at the rate of 556 barrels per day through an 11/64-inch choke with a tubing pressure of 125 pounds and a casing pressure of 1350 pounds. The extension test and discovery well for the deep sand on the southern flank was drilled and cored to 6380 feet in a shaley formation. Sands showing oil were encountered from 6355 to 6367 feet. After running an electrical logging device, seven-inch casing was cemented at 6342 feet.

Shell Petroleum Corporation recently discovered a deep sand on the southeast flank and extended Jennings approximately 2000 feet with Conover 1, which made 38 gravity oil at 7530 feet. After Conover 1 was completed Superior Oil Producing Company spudded in Leckelt 1, which was projected to the deep sand. With the discovery of deep sands on the flanks of Jennings it is anticipated that a new drilling campaign will be started in the old field. Superior Oil Producing Company, Stanolind Oil & Gas Company, Shell Petroleum Corporation and others own acreage in the area of the two extension wells. The Jennings field was the first producing field in the Louisiana Gulf Coast and has yielded around 48,000,000 barrels of oil and with the new flanks test showing large quantities of oil on production test it is thought that the field will add several million barrels to its reserve.

On the southeast side of the field, Stanolind Oil & Gas Company was rocking Houssiere Latrielle, Section 47-9s-2w, with gas to obtain a flow of commercial oil at 7222 feet in the Marginulina sand. The well was stopped at 7222 feet in sand showing oil after topping the broken formation at 7122 feet. Seven-inch casing was cemented at 7128 feet.

The deepest commercial producing well in the Louisiana Gulf Coast and one of the deepest in the world was completed at Lafitte in Jefferson Parish. The Texas Company's L. L. E. Lafitte 5, Section 20-17s-24e, made 500 barrels of 42 gravity oil daily through ¼-inch choke from 9974 feet. The test was drilled to 9974 feet in shale, 7⅝-inch casing was cemented at 9920 feet with 1200 sacks of cement. The operators cored an oil show from 9876 to 9883 feet, an oil odor from 9885 to 9893 feet and from 9912 to 9927 feet. The last report from the well states that shale was cored to 9974 feet. L. L. E. Lafitte 5 discovered a new sand for the field and extended production over a half mile in a northwesterly direction.

The Texas Company's Rigolets 5, Section 29-17s-24e, Lafitte field, was attracting considerable attention as it showed oil below 10,000 feet. The well at the end of the week was coring and drilling below 10,237 feet. A sand showing oil was encountered from 10,058 to 10,064 feet. Several other sands with odors of oil were cored below 10,000 feet. This well is also over a half mile southeast of production, and will extend production that far if completed as a producer.

At Abbeville in Vermilion Parish, Continental Oil Company was trying to circulate around 33 stands of pipe still in Hebert 1. The crew was successful in pulling 44 stands of pipe the past week, but the remaining 33 stands hung in the hole. The well is bottomed at 11,732 feet in sand showing gas.

A new deep oil sand was discovered on the northwest flank of New Iberia field, Iberia Parish, last week by The Texas Company, who completed Schwing 1, Section 71-12s-7 at 6732 feet for 530 barrels daily through a ¼-inch choke with a tubing pressure of 600 pounds. Oil sand was logged at 6715 feet and 7-inch casing was cemented at 6712 feet. The oil tested 22.3 corrected gravity.

Also on the northwest side of the field, The Texas Company completed C. Gralina et al 1, Section 25-12s-7e, flowing at the rate of 515 barrels daily through a ¼-inch choke with a tubing pressure of 650 pounds. The 27.3 gravity oil was flowing from sands at 4448 to 4478 feet. Seven-inch casing was set at 4445 feet. On the west side of Tepetate field, Acadia Parish, Continental Oil Company finaled L. J. Ortego 1, Section 29-7s-2w, at 8318 feet for 274 barrels of 33.5 gravity oil daily through a 5/32-inch choke. Tubing pressure was 1050 pounds and casing pressure was 1600 pounds. Gas sand was logged at 8282 feet and oil sand was encountered at 8306 feet.

Four new wildcat locations were announced in the Louisiana Gulf Coast the past week and were getting underway to be spudded in the next two or three weeks. Gulf Oil Corporation made two new wildcat locations, Shell Petroleum Corporation and Stanley Thompson made the other two locations.

Gulf Oil Corporation will drill one wildcat on the Lake Lery prospect and the other at Bay Adams. Lake Lery 1 is 3433 feet west and 100 feet south of the southeast corner of Section 28-14s-14e, St. Bernard Parish. State Bay Adams 1 is 1600 feet west and 640 feet south of the southwest corner of Section 28, but in Section 32-19s-28e, Plaquemines Parish.

Stanley Thompson's Lewis 1 is in the vicinity of Washington prospect in St. Landry Parish. It is 330 feet south and 300 feet west of the NEc NW¼ of Section 29-5s-6e.

Shell Petroleum Corporation made a second location on Hester prospect in St. James Parish, where it recently discovered a salt dome in Colonial Sugar 1. Colonial Sugar 2 is 500 feet north along the east line of Section 5 and approximately 4500 feet north of Colonial Sugar 1, Section 5-12s-5e. Colonial Sugar 1 was abandoned at 2339 feet after plugging back from 7522 feet in salt. Top of the salt was found at 7492 feet. The well had a number of showings of oil, but due to salt water

## SOUTH LOUISIANA

### Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| CAMERON MEADOWS— | | |
| Burton Sutton, School Land 4..... | 100 | 3945 |
| ENGLISH BAYOU— | | |
| Union Sulphur, Cole 2 ..... | 310 | 5257 |
| JEANERETTE— | | |
| Herton Oil Co., Banta 5..... | 712 | 6687 |
| JENNINGS— | | |
| Superior Oil Prod. Co., Leckelt 1... | 556 | 6380 |
| LEEVILLE— | | |
| Lincoln Oil Co., State 8.....¶ | 1600 | 4968 |
| The Texas Co., L. L. E. Leeville 56.. | 2275 | 4969 |
| NEW IBERIA— | | |
| The Texas Co., C. Gralina et al 1.. | 515 | 4478 |
| Schwing 1 ..... | 530 | 6732 |
| PORT BARRE— | | |
| H. A. Weir, Thompson 2 ..... | * | 3818 |
| TEPETATE— | | |
| Continental, L. J. Ortego 1..... | 274 | 8318 |
| ST. JAMES PARISH— | | |
| Shell, Colonial Sugar Co. 1, Hester prospect, 5-12s-5e ..... | * | 7522 |
| TERREBONNE PARISH— | | |
| John P. Beck, Realfy Owners 1, Houma prospect, 102-17s-17e .... | ½ | 1363 |

*Failures; †Junked; ¶Million cu. ft. gas.


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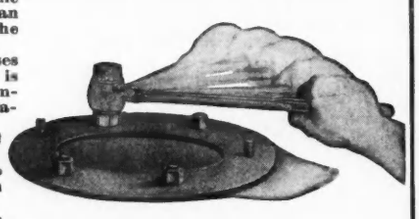

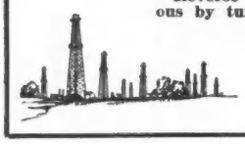

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encroachment failed to test several of these sands.

John P. Bech's Realty Owners 1, Houma Townsite prospect, Section 102-17s-17e, was completed as a 500,000 cubic foot gas well through a ¼-inch choke. The pressure on the well was 300 pounds. The hole was drilled to 2218 feet where the well showed salt water on a drill stem test. The hole was plugged back and 7-inch casing was cemented at 1417 feet. The casing was perforated with 24 holes from 1353 to 1363 feet. The crew bailed down 200 feet and the well came in making gas.

Another producer was added at Jeanerette, St. Mary Parish, when Herton Oil Company completed Banta 5, Section 40-13s-9e, in the Miocene formation at 6687 feet. The test made 712 barrels daily through a ¼-inch choke with a tubing pressure of 1000 pounds. Gas/oil ratio was 450-1. The hole was bottomed at 6687 feet, and sand showing oil was logged at 6660 feet. Seven-inch casing was landed at 6687 feet and it was perforated with 47 holes from 6627 to 6672 feet.

On the South Jennings prospect in Jefferson Davis Parish, Stanolind Oil & Gas Company was still fishing on Calvasieu National Bank 1, Section 15-10s-3w, at 9944 feet after sticking the drill pipe. The hole is bottomed in sandy shale and no heaving shale has been encountered.

Tide Water Oil Company's Manhatten Fruit Company 1 on the Venice Dome, Section 26-21s-30e, Plaquemines Parish, was abandoned at 3000 feet after encountering salt at 2965 feet. Tide Water Oil Company took this well over from Southern Sulphur Company.

On the east side of English Bayou field, Calcasieu Parish, Fohs Oil Company completed Castle 12, west offset to Union Sulphur Company's Kauffman 1, Section 14-9s-8w, was completed for 519 barrels daily through a 15/64-inch choke and was estimated at 650 barrels through a ¼-inch choke. The well was completed in oil sands at 7050 feet, where 7-inch casing was cemented.

North of Union Sulphur Company's Kauffman, eastern extension test, the same operator's Kauffman 2, was rumored to be in oil sand at 7376 feet. However, this could not be confirmed at the end of the week. If the well is in a sand at 7376 feet it is a new sand for the English Bayou field.

Fohs Oil Company's Castle 13, southeast flank test was waiting on cement to set after coring oil sands from 7018 to 7035 feet.

In the graben between the Gillis and English Bayou field, Calvasieu Parish, Union Sulphur Company completed Cole 2, Section 12-9s-8w, flowing at the rate of 310 barrels of 29.4 gravity oil through a 3/16-inch choke with a tubing pressure of 1390 pounds from 5257 feet. The well is making no salt water. Top of the oil sand was logged at 5254 feet and seven-inch casing was cemented at that depth.

## LOUISIANA PERMITS

**Shreveport.**—Only two drilling permits were issued last week by the Louisiana Conservation Commission, these being equally divided between one in Caddo Parish, North Louisiana, and the other in Plaquemines Parish, South Louisiana.

# *Watch Edge Tests*

## RODESSA SAND HAS OIL OF DIFFERENT CHARACTERISTICS

NORTH LOUISIANA

WEEKLY STAFF REPORT

**Shreveport.**—Edge wells held chief interest at Rodessa last week from the operating standpoint, with a slight extension north in the northeast part of the field, and on the northwest edge a test showing salt water with arrangements to plug back and test again. A ½-mile northeast outpost operation was being tested as the week closed.

The north edge extension producer in the northeast part of the field was Roger Wolfe's Fitts 1, SW SE NE 8-23n-15w, which cored 12 feet of saturation in the Hill sand from 5948 to 5960 feet, was completed at 5973 feet, flowing 350 barrels in 14 hours through 3/16-inch tubing choke. The northeast part of the field has found the Hill horizon productive of oil, the only part of the field where this horizon has yielded oil at Rodessa.

Incidentally a new sand between the Hill and the Gloyd was discovered in this part of the field by Blackwell Oil Company on its Neugent lease and has been named the "Neugent sand." One well is producing from this horizon and the content of the oil has been found to be considerably different from that of other oil wells at Rodessa.

An edge well on the northwest flank of the Cass County part of the field showed salt water when swabbed at 6051 feet. This is Magnolia Petroleum Company's J. J. Moore 1, southeast corner of a 118-acre tract, John Collum Survey. Operators are arranging to perforate casing and test again.

A half-mile northeast of production, Red Iron Drilling Company's Means 1, SW NE 9-23n-15w, was drilling plug preparatory to testing at 6006 feet. This is probably the Young sand although the well has been drilled "tight"; elevation is 216 feet. Hill sand was topped at 5801 feet and the Gloyd at 5912 feet. In a core from 5961 to 5969 feet 2 feet of Gloyd sand was recovered that showed a distillate odor and fair saturation. Six inches of the formation showed heavy saturation. In a core from 5914 to 5932 feet porous lime and shale was recovered which showed an odor of distillate. The Neugent sand showed no oil and so far the Dees in that part of the field has lacked porosity. Whether the Young is below the recognized water level remains to be seen in this test.

Altogether there were 12 producers completed in Rodessa last week of which 8 were on the Louisiana side and the others on the Cass County side.

United Gas Public Service Company's Fee 2, SW SE 16-23n-16w, ⅛-mile north and west of nearest production on the Caddo side was completed flowing 75 barrels per hour through ½-inch tubing choke at 5995 feet.

In the northeast part of the field, Magnolia Petroleum Company has gone below the Young horizon in Spearman 3, SW NW SW 18-23n-15w, a south edge test, and Thursday was preparing to set 7-inch casing at 6080 feet with total depth of 6475 feet. A show of oil was reported in 7 feet of lime at 6436-56 feet.

Ten new locations were announced at Rodessa, 8 on the Texas side.

Bottom-hole pressures and gas-oil ratios taken since the Louisiana Conservation Commission's order to curb gas waste on the Louisiana side of the Rodessa field went into effect September 15, were submitted to the Rodessa

## NORTH LOUISIANA
### Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| BOSSIER PARISH (Sligo)— | | |
| Triangle Drlg. Co., H. L. Skannal Unit E-1, 23-17n-12w | ¶4 | 5696 |
| CADDO PARISH (Pine Island)— | | |
| Stanolind, Dillon Hrs. 108, 14-21n-15w | 25 | 1680 |
| GRANT PARISH (Urania)— | | |
| Theo. Davis et al, W. L. Barrett 1, 19-9n-1e | * | 1710 |
| Al Johnson et al, Brewster 1, 19-9n-1e | * | 1640 |
| Rogers Oil Co., Swope 1, 17-9n-1e | 75 | 1604 |
| LA SALLE PARISH— | | |
| Adams-Louisiana Co., Good Pine Oil Co. 1, 12-6n-2e | * | 2690 |
| MOREHOUSE PARISH (Monroe)— | | |
| United Gas, Crossett Lbr. Co. 43, 30-22n-5e | †8½ | 2245 |
| Crossett Lbr. Co. 44, 24-22n-4e | ¶16 | 2241 |
| Crossett Lbr. Co. 45, 31-22n-5e | ¶14 | 2230 |
| Stovall 5, 4-20n-4e | ¶5 | 2165 |
| UNION PARISH (Monroe)— | | |
| Interstate Nat. Gas Co., Fee 54, 32-21n-4e | ¶6 | 2143 |

### RODESSA

| | | |
|---|---|---|
| LOUISIANA— | | |
| CADDO PARISH (Rodessa)— | | |
| J. Edward Jones, Rockefellow 2, 23-23n-16w | 1000 | 6005 |
| Phillips, Woods 2, 17-23n-15w | 2000 | 6088 |
| Woods 3, 17-23n-15w | 2000 | 6047 |
| United Gas, Fee 2, 16-23n-16w | 2000 | 5995 |
| Gibson 2, 15-23n-16w | 2000 | 5980 |
| Gibson 3, 15-23n-16w | 1500 | 5993 |
| W. B. Spearman 3, 15-23n-16w | 1500 | 5988 |
| Roger Wolfe, Fitts 1, 8-23n-15w | 1000 | 5973 |
| TEXAS— | | |
| CASS COUNTY (Rodessa)— | | |
| Ohio, Willis 2, SFIW Sur | 1500 | 5994 |
| Superior, Chew A-3, Robt. Trammel sur | 1800 | 5987 |
| Texas, E. E. Hall 2, James Young sur | 1800 | 6087 |
| Magnolia, George 2, Jno. Collum sur | 2000 | 6078 |

*Failures; †Junked; ¶Million cu. ft. gas.

Operators Committee at a meeting held in Shreveport Thursday, October 1.

These data were secured as the basis of recommendations which the Rodessa Operators Committee will make to Conservation Commissioner William G. Rankin for another gas-oil ratio order that will be issued effective October 15. Whether this will be another temporary order, such as that put into effect September 15 for a 30-day period or whether it will be in the nature of a permanent order is not known. Whether it will be a blanket order or based on individual well performances is likewise unknown.

The Rodessa Operators Committee met in executive session and the details of the engineering data and the recommendations to be made were not announced. However, in a general way the data secured showed that the September 15 order had effected a reduction in the gas yield at Rodessa estimated at 200 million to 250 million cubic feet daily. On the basis of data secured for the September 15 order it had been shown that the gas production that came with the oil in that field exceeded 660 million cubic feet daily.

The September 15 order reduced the gas allowable per well on oil wells to 3 million cubic feet of gas daily and on gas distillate wells to 6 million cubic feet daily, or on the basis of the per well allowable of 240 barrels daily, a ratio of 12,500 to 1 and 25,000 to 1, respectively.

The October allowable order of Commissioner Rankin announced last week set the per well allowable at 225 barrels, which will automatically reduce the gas production proportionately.

Bottom-hole pressures for the entire field and gas-oil ratios on all wells in parts of the field thickly drilled were secured by the engineers for submission to the committee as a basis of its recommendations to the state authorities.

### Bienville Showing

Possibility of more Travis Peak production in the North Louisiana Basin was seen as a possibility last week after J. W. Leonard's Courtney Heirs 1, SE SE 5-17n-7w, Bienville Parish, had a show of oil and gas with so much pressure the well threatened to blow out in a core from 7159 to 7181 feet in the Travis Peak. The well was brought under control and operators went into the hole to cut another core. This test, with elevation of 215 feet logged top of the Travis Peak at 7015 feet.

In the last core blue poker-chip shale was recovered immediately above which there was a foot of black saturated lime. Blue shale was logged just above this. Above this 7 inches of black saturated lime was logged. From 7050 to 7070 feet red sandy shale was logged.

Prairie River Syndicate's Hutchinson 1, Section 15-15n-12w, Caddo Parish, which is over 1000 feet in the Travis Peak was drilling at 6868 feet with 110 feet of red shale streaked with anhydrite logged at the bottom. A 6-foot anhydrite zone was encountered above this.

### Third Sibley Producer

The Sibley gas-distillate area in Webster Parish added its third producer last week when W. D. Ambrose's Crichton 1, SW NW 36-18n-9w, was completed making an estimated 50 to 60 million cubic feet of gas with considerable distillate, at 5680 feet to which the well was plugged back after going to 5860 feet and plugging back and testing salt water at 5809 feet. The well is shut in awaiting gauge.

J. P. Evans, who owns the two other gas-distillate producers in this field is planning to erect a gasoline absorption plant there with capacity of about 600 gallons daily. It will be operated by Ecco Oil Corporation of which Evans is president, Jack Coast, vice president, and H. R. Scivally, secretary-treasurer. W. J. Hobby is the other director besides the officers.

## SUN PICNIC

**Kilgore, Texas.**—Employes of Sun Oil Company and Sun Pipe Line Company staged their semi-annual barbecue and dance September 24, at the former's camp and recreation center near here. District offices at Dallas and Beaumont were closed in order to enable all employees and their families to attend. Safety drills by company first-aid squads, and a speech by J. Edgar Pew of Philladelphia, vice president in charge of production, on "Americanism" preceded the dance in the large recreation building maintained by the company for its East Texas workmen.

## ARKANSAS
### Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| DALLAS COUNTY— | | |
| A. F. Tarver, Wilbon 1, 21-9-13.... | * | 3056 |
| OUACHITA COUNTY (Snow Hill)— | | |
| Phillips Pet. Co., Arnold 1, 27-15-15 .....(¶3) | 90 | 5175 |

*Failures; †Junked; ¶Million cu. ft. gas.

## MORE SALT WATER
### Snow Hill district intrusion increases

ARKANSAS

WEEKLY STAFF REPORT

**El Dorado, Ark.**—Salt water encroachment continues in the gas-distillate wells completed in top of the Permian lime in the Snow Hill district, Ouachita County. Phillips Petroleum Company's Arnold 1, NE SW 27-15-15, plugged back to 5175 feet and completed making 90 barrels of distillate daily and 3 million feet of gas, on a later gauge flowed 75 barrels of fluid daily, 47 percent salt water. Tubing pressure was 850 pounds and casing pressure, 950 pounds. The same company's Reynolds 1 in the same section, the Permian lime discovery well of the field, is pumping 208 barrels of fluid daily, 39 percent salt water.

Benedum & Trees' Groves 1, SW SW 10-14-20, Nevada County, a test designed for the Travis Peak, last week tested dry in a drill stem test at 1960 to 1989 feet and is drilling ahead. Elevation is 354 feet. This company's Bringham 1, Section 29-14-19, in the Travis Peak cored over 200 feet of salt water sand and as it is up the structure should this sand be logged in the present test, it might be productive.

## ARKANSAS PERMITS

**El Dorado, Ark.**—Five drilling permits were authorized last week by the Arkansas Board of Conservation. The new permits follow: Dallas County—Walter Lown, Trustee, Smackover, Arkansas, Atkinson 1, center NE NW SE 7-10-13; Bradley County—Joe Modisett, El Dorado, Arkansas, Brown Estate 1, located 330 feet south and 660 feet west NEc NE NW 28-16-12; Hempstead County—C. W. Hays et al, Hot Springs, Arkansas, State of Arkansas 2, SW SW 18-14-25; W. E. Stewart, Tyler, Texas, W. E. Stewart 1, located 350 feet north and 400 feet west SEc NE NE 31-12-23; Sebastian County—Ozark Natural Gas Company, Fort Smith, Arkansas, Mrs. Sarah Girard 1, located 660 feet east and 1000 feet north SWc NW NE 21-7-30.

## MISSISSIPPI

**Jackson, Miss.**—State of Mississippi's third test for exploration of its 1320 acres of state land in the Jackson gas field was recently spudded and last week had 10-inch casing cemented at 775 feet in shale. This is Fee 4, N½ Section 35-6n-1e, Hinds County. Fee 1, Section 25-6n-1e, was lost at 1155 feet when it suddenly blew out and Fee 3 in the same section which showed for an estimated 50 million feet of gas at 1107 feet is shut in awaiting gauge. Fee 2, Section 25-6n-1e, is a derrick. E. R. Owen is drilling contractor on all the tests.


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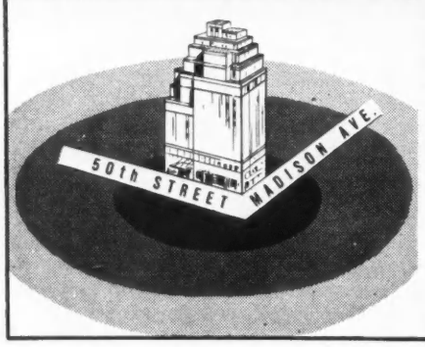


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# *New Field*

## MAY BE OPENED IN MOFFAT COUNTY, COLORADO

WEEKLY STAFF REPORT

**Casper, Wyo.**—Recovering saturated cores between 2555-75 feet in Henderson 1, SWc 16-3n-91w, Continental Oil Company is stopping to test production with prospects of opening up a Sundance oil pool on the Thornburg gas structure, 25 miles south of Craig, in Moffat County, northwestern Colorado.

The company set 5-inch casing at 2550 feet, and is running 2-inch tubing preparatory to swabbing down and testing. The well was originally drilled by Marland Oil Company in 1926, and was carried to 2373 feet in the top of the Sundance, which was dry, and plugged back to the Dakota where it completed for 30,000,000 cubic feet of gas daily. The well stopped 70 feet above saturated Sundance.

Thornburg Dome, delineated by dips in the Mancos shale, surface formation, has a closure of 900 feet, and embraces about 1200 acres. Marland Oil Company, whose properties Continental Oil Company took over, drilled two other wells at Thornburg. Wyomore 1, SW SW NW 16-3n-91w, which completed for 20,000,000 cubic feet of gas initial in the Dakota at 2124-27 feet, and Clark 1, NE SW NW 21-3n-91w, which completed for 20,000,000 cubic feet daily after finding the Sundance dry at 3110 feet.

On the Powder Wash gas structure, Moffat County, Mountain Fuel Supply Company's Carl Allen 1, NE SW SE 32-12n-97w, is coring at 4046 feet. In the Hiawatha field, Mountain Fuel's Georgia Kuykendall 1, NE NE SE 22-12n-100w, near the Wyoming state line, is drilling at 2647 feet.

### Garland Gasser Fires Again

Fire started at 4 o'clock Tuesday afternoon in the crater 15 feet east of Stock Oil Company's Allen 1, NW SE 32-55n-97w, spread to the derrick floor and destroyed most of the rotary equipment as crew was pumping in mud to kill the wild gasser on Garland anticline, Big Horn County, northern Wyoming. No one was injured in the blaze. The well has been out of control since January 27.

Derrick was quickly snaked down, and the draw works, crown block and upper derrick structure were saved. A 500-barrel tank which had been placed over the mouth of the crater as a safety measure was swallowed up by the crater as it widened following catching fire.

Operators are laying four 3-inch lines from boilers a quarter mile back from the well and will attempt to blanket out steam. The company is considering the plausibility of drilling a directional hole to kill the well.

Stock Oil Company's Griffin 1, NE NE NE 4-55n-97w, is drilling at 1976 feet.

In the Byron field, Big Horn County, Ohio Oil Company is rigging up rotary for Clarrissa Willey 1, NE NW 25-56n-97w, a first report. Company's Irene Lindsay 1, C NW SE 25-56n-97w, is drilling at 4886 feet. In the Garland field, Ohio's Smith 2, W NW SE 35-55n-97w, is drilling at 3557 feet.

Resolute Oil Company's State 1, C NW SW 16-5n-101w, deep well in the Badger Basin field, Park County, is drilling at 7683 feet.

### Lance Creek

One below average Sundance producer completed, and three wells were testing production in the Lance Creek field, Niobrara County, eastern Wyoming, this week. Continental Oil Company's Otto Rohlff 7, C NW SW 32-36n-65w, completed for 700 barrels initial through the casing and 500 barrels through the 2-inch tubing. The 7-inch casing is set at 3845 feet, with the basal Sundance logged at 3853-3954 feet and total depth at 3960 feet in the red beds.

Continental Oil Company's Emil Rohlff 1, C SL SE NW 32-36n-65w, set 7-inch at 3876 feet, had basal Sundance at 3876-3961 feet and hole bottoms at 3967 feet in the red beds. The well is running tubing to test. The company's Dielman 2-A, NW NE NE 7-35n-65w, is moving in material, and Schuricht 2-B, SE SW SE 6-35n-65w, is rigging up rotary.

Ohio Oil Company has two wells testing. Elizabeth Lamb 1, C NE NE 5-36n-65w, set the 4¾-inch production string at 3947 feet and went into the red beds at 3995 feet. Hole bottoms at 4010 feet. Richards & Comstock 3, 220 feet from the north and 630 feet from the east lines of 32-36n-65w, logged the Sundance at 3773-3861 feet, with total depth at 3869 feet in the red beds. Well is running high structurally.

J. M. Huber Corporation's Joss 2, NE SW 6-35n-65w, is rigging up rotary. Adams-Louisiana Company's Spaugh 1, C NW NW 18-35n-65w, is rigging up rotary after spudding to 230 feet with drilling machine and setting 12½-inch surface casing.

Sinclair-Wyoming Oil Company's Muskrat 2-C, NE SW SW 1-33n-92w, deep test to the undrilled carboniferous beds in the Muskrat field, Fremont County, is drilling at 6810 feet. Sinclair's Wertz 10-A, SE NW 7-26n-98w, Wertz gas field, Carbon County, is drilling red beds at 4570 feet.

### Goshen County

Two important deep tests on seismograph locations on southeasterly trends from the Hartville uplift are scheduled to take place within the immediate future in Goshen County, eastern Wyoming, an area that has long been looked upon as favorable for oil and gas production.

Ohio Oil Company is moving in material for Joseph Waggoner 1, C NE NE 14-28n-63w, on the Jay Em structure, Goshen County. The well will drill to the Sundance at around 4500 feet.

Adams-Louisiana Company of Houston this week exercised option to drill the Hiram D. Lingle block, embracing the Pine Ridge Unit area in Goshen County. The exploratory company recently finished a seismic survey of the area.

The Lingle block embraced 35,000 acres and completely covers the Pine Ridge structure, which is described a southeasterly trend from the Hartville uplift and crossed near its termination in the rocky Pine Ridge escapement by the Fort Laramie fault. Location of the test has not been announced. The Lingle block lies in Township 26 North and Ranges 62 and 63 West. Stanolind Pipe Line Company's gravity line from Teapot, Wyo., to Freman, Mo., crosses through Goshen County within a few miles of both the Adams-Louisiana and Ohio acreage.

### Montana Fields

Swabbing down 2-inch tubing to 7000 feet yielded from 3 to 10 barrels of clean oil per hour in Montana-Dakota Utilities Company's Government 1-Unit-8, NE NE NW 17-4n-62w, according to reliable but unofficial sources. Hole bottoms at 8186 feet in a formation tentatively identified as the Devonian lime. The 4¾-inch casing is set at 8120 feet and tubing was run to a few feet off bottom. Acidization with 3000 gallons did not materially help production, and well will be deepened a few feet.

The Montana-Dakota well is located on the 90-mile Baker-Glendive anticline, extending through Fallon County, eastern Montana, into Harding County, northwestern South Dakota.

## MOUNTAIN STATES Completions

### MONTANA

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| GLACIER COUNTY (Cut Bank Field)— | | |
| B. V. Hole, Allotted 1-124, lot 2, 1-32n-6w | 60 | 3060 |
| TOOLE COUNTY (Kevin-Sunburst Field)— | | |
| Big West Oil Co., Dahlquist 3, se ne nw 21-35-3w | 100 | 1795 |
| Coolidge & Coolidge, Inc., Shaw 3, se se ne 35-36-2w | 6 | 1533 |
| Deloraine Oil Co., Government 4, nw sw ne 28-35-1w | 5 | 1385 |

### WYOMING

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| BIG HORN COUNTY (Lance Creek Field)— | | |
| Ohio, Orson Vail 1, cnw ne 23-56n-97w | 500 | 5214 |
| NIOBRARA COUNTY (Lance Creek Field)— | | |
| Continental, A. Schuricht 4, cne se 6-35n-65w | 5256 | 3950 |

*Failures; †Junked; ¶Million cu. ft. gas.

Last May the well flowed 150 barrels of fluid, 90 percent of which was water, from the Quadrant lime (Pennsylvania) at 6747-6797 feet. Unofficial and unreliable publicity to the effect that the well flowed 7650 barrels of oil daily started a wild speculation in Montana-Dakota Utilities stocks, and the company has given out only meager information on the well since.

In the Cut Bank field operations were comparatively routine with only one completion and one first report. British-American Oil Company's Tribal 11, Lot 7, 10-34n-6w, swabbed in for 42 barrels in the first 24-hour period. Hole bottoms at 2931 feet.

The Texas Company is rigging up rotary for Tribal 2-121, NW SE 36-33n-6w, one of the drilling obligations called for on the land the company leased from the Blackfeet Nation a year ago. The Department of the Interior refused to postpone drilling requirements on the Blackfeet lands despite the fact that Cut Bank operators have been co-operating to reduce drilling wells in view of over-production in the Glacier County field.

One well completed and two wells started in the Kevin-Sunburst field, Toole County, northern Montana. Clara Oil Company's Waite 9, SE SE NE 24-35n-2w, pumped 24 barrels initial from the Ellis-Madison contact at 1490 feet with total depth at 1500 feet.

First reports for Kevin-Sunburst are: Cassidy's Carlson 3, C NL SW SE 22-35n-3w, drilling at 900 feet, and Engleking & Pfabe's Hurley 1, SW NE NW 8-34n-2w, rigging up.

Ohio Oil Company's Northern Pacific 1, NE SW 11-7s-21e, deepening from the gas-bearing Frontier sands in the Dry Creek field, Carbon County, southern Montana, is drilling plug, with 4¾-inch production casing set at 5542 feet, preparatory to drilling into the oil-bearing Dakota series at Dry Creek and testing.

# *Wildcat Shows*

## TO MAKE PRODUCTION TEST OF CANTUA CREEK WELL

WEEKLY STAFF REPORT

**Los Angeles.**—Western Gulf Oil Corporation's S.P.L. 3, important wildcat test well in the Cantua Creek area 45 miles southwest of Fresno, has been temporarily bottomed at 8531 feet in shale with streaks of oil sand and 2 feet of gray sand on bottom. A 6⅝-inch blank liner was cemented at 8529 feet and perforated from 8430 to 8529 feet. A packer will be set above the perforations and a production test made. Top of the Domengine sand (middle Eocene) was cored at 8430 feet. This project is thought to be on the south edge of a structure, and the next well will be drilled farther north.

Mohawk Petroleum Company is rigging up to drill Langer 1, located 2½ miles northwest of S. P. L. 3. This location, 330 feet north and 330 feet west from the southeast corner of Section 30-16s-15w, was staked three months ago, but has been standing idle, awaiting developments of S. P. L. 3.

The Texas Company's K. C. L. C-11-49, wildcat well in Section 11-11n-22w, 20 miles southeast of Taft, is being cored ahead at 9528 feet in Etchegoin shale (Pliocene). The fact that the Miocene formations have not yet been encountered has aroused a great deal of interest, since it was formerly considered that this well is nearer the edge of the valley geosyncline than the Ten Section field. Shell Oil Company's K. C. L. A-6-29, in Ten Section, cored the top of the Miocene oil sand at 7763 feet, nearly 1800 feet higher than the present depth of The Texas Company's K. C. L. C-11-49.

Associated Oil Company's Avenal 1, wildcat well in Section 35-23s-17e, 12 miles west of Kettleman Hills, was bottomed at 2930 feet in hard, brown sandstone of Temblor, middle Miocene age. Top of the Temblor was cored at 2830 feet and 8⅝-inch water string was cemented at 2830 feet.

### Wildcat Coring

General Petroleum Corporation's Arvin 1, wildcat well in Section 26-31s-29e, 20 miles southeast of Bakersfield, is being cored ahead at 6615 feet in sand and shale of the Kern River series (Pliocene). This project is already 862 feet deeper than the top of the Miocene and 600 feet deeper than the top of the basement granite in Mohawk Petroleum Company's Earl Fruit 1, located 3 miles north.

Continental Oil Company's Grubb 5, in Padre Canyon, 8 miles west of Ventura, was completed September 22. On September 23 the well flowed 1400 barrels a day of 31.3 gravity oil, cutting 13 percent. Depth is 7040 feet, with 9-inch water string cemented at 5955 feet, 1127 feet of 6⅝-inch liner, including perforations 5948-6260 feet, and 6610-7040 feet landed on bottom and the blank section 6610-6260 feet cemented through perforations. The blank section was later perforated with the gun perforator 6325-6385 feet and 6490-6570 feet.

DeAugustine-Abrams-Daly Oil Company's Barnett 1, discovery well of the new area at the east end of East Coyote oil field, has settled down to 160 barrels a day of 22.5 gravity oil, cutting 0.6 percent. Depth is 2811 feet, with 8⅝-inch water string cemented at 2735 feet.

Continental Oil Company's Carlton Community 2, located 500 feet east of Barnett 1, was plugged back to 2720 feet and started flowing mud and gas after being bailed to 1500 feet. The well was killed after a few hours flow, cleaned out to 2728 feet, and 2½-inch tubing was hung at 2004 feet. The well

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is being swabbed and is flowing mud and water and a little gas by heads.

Hancock Oil Company's Page 1, one location north of Barnett 1, was cored to 3194 feet in shale with streaks of gray sand, then plugged back to 2850 feet. A formation test will be made of the interval 2620-2850 feet.

The Texas Company's Baldwin 14, in the East Montebello extension, 12 miles east of Los Angeles was completed September 23, flowing, in 19½ hours, 852 barrels of 38.7 gravity oil cutting 2.6 percent, and 3,349,000 cubic feet of gas. Flow was through 42/64-inch choke with tubing and casing pressures of 450 pounds and 750 pounds, respectively. Present production is 678 barrels a day of 38.7 gravity oil cutting 1.5 percent. Depth is 5845 feet, with 9⅝inch water string cemented at 5362 feet, and 522 feet of 6⅝-inch liner landed at 5841 feet. Liner is perforated opposite the Upper Nutt zone 5361-5544 feet, and opposite the Lower Nutt zone 5579-5841 feet.

Republic Petroleum Company's Republic-Fee 1, located 1250 feet southwest from Baldwin 14, is being cored ahead at 6114 feet in shale with streaks of gray sand of the Lower Nutt zone. Top of the Upper Nutt zone was cored at 5685 feet and top of the Lower Nutt zone was cored at 5970 feet. Both zones are wet.

Shell Oil Company's Cherry Hill 8 was plugged back to 2915 feet, and the 11¾-inch casing perforated opposite what is probably equivalent to the Wilbur zone of other parts of the field. The well was completed September 13, pumping, in 18 hours, 227 barrels oil cutting 1.4 percent. On September 14 the well flowed 1944 barrels a day cutting 4.0 percent, and 570,000 cubic feet of gas. Flow was through ⅞-inch and 1/16-inch chokes with tubing and casing pressures of 40 pounds and 125 pounds, respectively. On September 16, the well flowed 441 barrels in 8 hours and died. It was cleaned out and recompleted September 20. Present production is 565 barrels a day oil cutting 26.6 percent. Total depth is 6636 feet.

Chino Petroleum Corporation's Abacherle 2, wildcat well at the east end of Puente Hills 45 miles east of Los Angeles, was bottomed at 2235 feet, and 875 feet of 6⅝-inch liner was landed at 2235 feet, including perforations opposite the upper zone 1405-2130 feet and opposite the lower zone 2169-2235 feet. The well was completed September 20 pumping 250 barrels a day of 24 gravity oil cutting 5 percent. Well was killed, a gas anchor installed, and recompleted September 22 pumping at the rate of 160 barrels a day of 24 gravity oil, cutting 2 percent. The present production is 170 barrels a day.

## CALIFORNIA

### Completions

| Company, Well and Location | Init Prod. Bbls. | Depth |
|---|---|---|
| KETTLEMAN HILLS— | | |
| Ketlteman No. Dome No. 51-2P | 475 | 7756 |
| EDISON— | | |
| Buffalo Oil Co. No. 1 | 25 | 797 |
| FRUITVALE— | | |
| Western Gulf, K.C.L. B. 22 | 250 | 3387 |
| MOUNTAIN VIEW— | | |
| Barnsdall, Nighbert 1 | 350 | 4972 |
| MOUNT POSO— | | |
| Shell, Vedder 28 | 190 | 1860 |
| Union, Tribe B-1 | 355 | 1908 |
| Vanguard Oil Co., Baker 5 | 300 | 1900 |
| ROUND MOUNTAIN— | | |
| Shell, Caldwell 10 | 375 | 1515 |
| EL CAPITAN— | | |
| Shell, Orella 4 | 410 | 1758 |
| PADRE CANYON— | | |
| Continental, Grubb 5 | 1400 | 7040 |
| SAN LUIS OBISPO COUNTY— | | |
| Crail Bros. (Edna) Vedder 1 | * | 3792 |
| DOMINGUEZ— | | |
| Union, Callender 49 | 210 | 5441 |
| Carson 6 | 360 | 7299 |
| MONTEBELLO— | | |
| St. Helens Pet. Co., Monterey 21 | 60 | 3728 |
| Texas Co., Baldwin 14 | 680 | 5845 |
| REDONDO— | | |
| Linderman Oil Corp., No. 3 | 200 | 3780 |
| Petrol Corp., Simmons 5 | 200 | 3555 |
| Walken Oil Co., Redondo 3 | 135 | 3708 |

*Failures; †Junked; ¶Million cu. ft. gas.

## OARD ENHANCED

### Second well is flowing after acid treatment

MICHIGAN

WEEKLY STAFF REPORT

**Mount Pleasant.**— Buckeye Township, Gladwin County, was boosted in importance this week as a potential area for development when C. L. Maguire, Inc.'s Havens 1, sw sw sw, 25-18n-1w, Gladwin County, flowed 179 barrels net after a 200-gallon acid treatment at 3511 feet, 121 feet in Dundee lime. Previous to the shot the test, located a half mile due west of the Oard discovery well and the first Dundee test following the discovery, showed about 2000 feet of fluid in 48 hours. Operators plan a second treatment of 2000 gallons.

The discovery well at Oard showed about 10 barrels natural and went to a peak of 325 barrels the first 24 hours after a third, 1500 gallons, treatment but later settled to an average of 70 barrels daily, its present production.

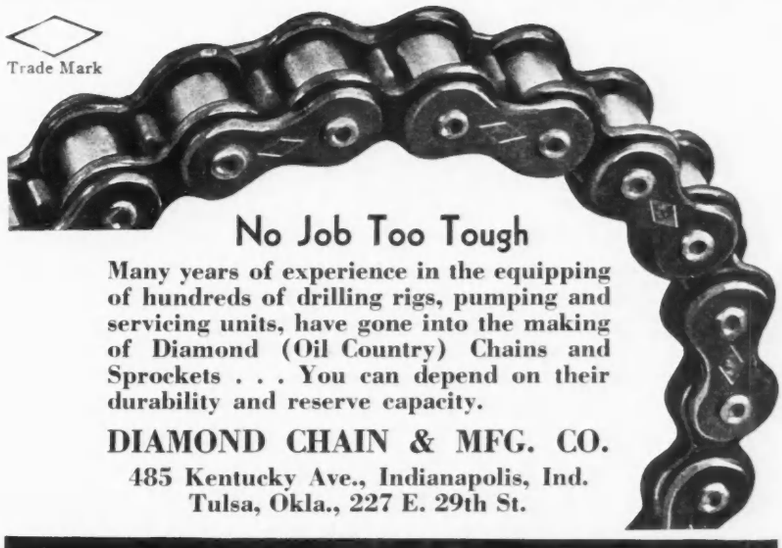
Goll, Graves and Mechling et al's Crigano 1, se se ne, 36-17n-2w, Gladwin County, four miles south of the Beaverton pool, produced 48 barrels net after a 200-gallon acid treatment and was rated good for 75 to 100 barrels after a 2000-gallon shot.

## MICHIGAN

### Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| GLADWIN COUNTY— | | |
| Goll, Graves & Mechling, Crigano 1, 36-17n-2w, se se ne | 48 | 3890 |
| C. L. Maguire, Havens 1, 25-18n-1w, sw sw sw | 179 | 3511 |
| GRATIOT COUNTY— | | |
| Wiser Oil Co., Smith 2, 3-10n-4w, c sw se | ¶24 | 956 |
| Crystal O&G Co., Shaver B-4, 4-10n-4w, c sw se | ¶5½ | 990 |
| Mass'gan Gas Corp., Shaver 5, 4-10n-4w, c se sw | ¶13 | 1011 |
| ISABELLA COUNTY— | | |
| Leaton O&G Co., Wezensky A 1, 30-15n-3w, sw sw ne | * | 3670 |
| MECOSTA COUNTY— | | |
| Gordon Oil Co., Roberts 2, 32-13n-7w, c sw se | ¶31 | 1315 |
| MIDLAND COUNTY— | | |
| Pure, Clark Heirs 4, 2-13n-2w, c n½ sw ne | 190 | 5430 |
| Bond-Root 9, 3-13n-2w, n½ ne sw | 20 | 3456 |
| B. A. Bartlett, Siebert 1, 33-15n-2e, nw sw se | * | 3882 |
| McClanahan Oil Co., Hoyt 4, 18-13n-1w, sw se sw | 125 | 3428 |
| Dinsmore 4, 20-13n-1w, se sw nw | 200 | 3431 |
| MONTCALM COUNTY— | | |
| Midland Pet. Co., Cornell 2, 9-12n-7w, c se nw | ¶44 | 1303 |
| Montigel, Tr., Loree 1, 18-9n-5w, ne sw nw | * | 3125 |
| MUSKEGON COUNTY— | | |
| Muskegon Dev. Co., Wagner 1, 17-9n-14w, c sw ne | ¶¼ | 1230 |
| SAGINAW COUNTY— | | |
| Lewis Burr, Palmer 1, 19-10n-6e, ne ne nw | 5 | 1540 |
| W. R. Borrough, Fortney 1, 29-11n-4e, sw sw nw | * | 3152 |

*Failures; †Junked; ¶Million cu. ft. gas.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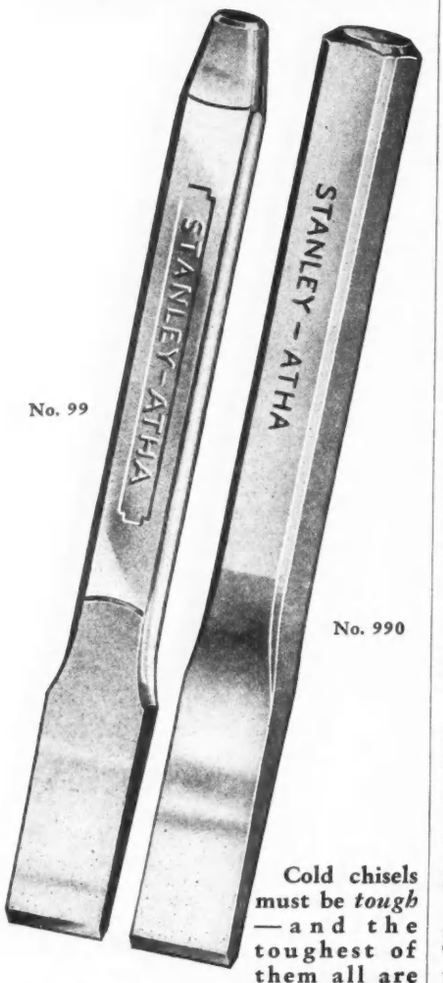


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# EASTERN FIELDS

WEEKLY STAFF REPORT

## Completions

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| **OHIO** | | |
| HOLMES COUNTY— | | |
| Ohio F. G. Co., Heffelfinger 4 | ¶ | 2824 |
| Besse McClugage 1 | ¶ | 3310 |
| Strouse 1 | ¶ | 3370 |
| Miller 1 | * | 4089 |
| Pure Oil Co., Troyer 3 | * | 3531 |
| MeHowa O. & G. Co., Houston 3 | * | 901 |
| LAWRENCE COUNTY— | | |
| Murphy Oil Co., Stewart Bros. 1 | * | 634 |
| SUMMITT COUNTY— | | |
| E. Ohio Gas Co., Cormandy 1 | ¶ | 4016 |
| Brooks Johnson, Gillie 1 | ¶ | 680 |
| PERRY COUNTY— | | |
| Ruth & Strong, Nuzum 16 | 7 | .... |
| Gas Producing Co., Lomas 2 | ¶ | .... |
| Preston Oil Co., Swinehart 1 | ¶ | .... |
| Haney-Nollum & Co., Hug 2 | * | .... |
| Jarbo 3 | * | 832 |
| Cress 3 | * | .... |
| Zoecher & Dice, Franchville 3 | ¶ | 522 |
| Gardner Oil Co., Lauman 3 | ¶ | 168 |
| Albert McGrain, Parrolt 1 | * | 682 |
| STARK COUNTY— | | |
| McFarland & Co., Killinger 3 | * | 4102 |
| E. Ohio Gas Co., Johnson 3 | ¶ | 4350 |
| Ohio F. G. Co., Harmont 5 | ¶ | 4304 |
| Stoner 5 | ¶ | 4393 |
| JEFFERSON COUNTY— | | |
| C. S. Kelley & Co., Baxter 13 | 3 | .... |
| HOCKING COUNTY— | | |
| Griffin Prod. Co., Mohler & Co. 2 | ¶ | .... |
| Charleston Gas Co., Kepler 1 | * | .... |
| C. & L. Nelsonville, Kachelmacher Est 1 | ¶ | .... |
| MERCER COUNTY— | | |
| Clarence Ebbing, Lauber 1 | 10 | .... |
| SANDUSKY COUNTY— | | |
| Klingberg & Co., Bowe 2 | 2 | 1276 |
| ALLEN COUNTY— | | |
| H. F. Kelley, Copeland 2 | 20 | .... |
| Davis & Jones, Post 1 | 4 | .... |
| WYANDOTTE COUNTY— | | |
| Upper Sandusky Oil Co., Veith 5 | ¶ | 1357 |
| WAYNE COUNTY— | | |
| Charles Myers, Ankrom & Co. 1 | ¶ | 410 |
| Ohio F. G. Co., Sidle 1 | * | 3157 |
| McMasters 1 | * | 3032 |
| ATHENS COUNTY— | | |
| Sperry O. & G. Co., Armstrong 2 | * | 871 |
| Ohio F. G. Co., McClain 2 | ¶ | 471 |
| WASHINGTON COUNTY— | | |
| John L. Wagner, Wagner 7 | 5 | .... |
| W. V. Torner, Torner 1 | 25 | 911 |
| Wickens & Aikens, Wickens 22 | ¶ | 1203 |
| Fenning Bros., Hendricks 1 | 45 | 950 |
| MONROE COUNTY— | | |
| Beardmore O. & G. Co., Beardmore 2 | ¶ | 1357 |
| Clare Beardmore, Parks 1 | * | 1720 |
| FULTON COUNTY— | | |
| M. L. Stevens, Venier 1 | ¶ | 2266 |
| HOCKING COUNTY— | | |
| Charleston Gas Co., Kepler 1 | * | 1965 |
| PORTAGE COUNTY— | | |
| Harbaugh & Co., Wise 2 | * | 410 |
| NOBLE COUNTY— | | |
| Barnesville Dev. Co., Danford 1 | 6 | 1564 |
| GUERNSEY COUNTY— | | |
| George Jewell & Co., Turnbaugh 4 | * | 1073 |
| MUSKINGUM COUNTY— | | |
| Ohio F. G. Co., Alexander 1 | ¶ | 4927 |
| COSHOCTON COUNTY— | | |
| Hulse-Kuntz Inc., C. E. Moore 3 | 90 | 3392 |
| LICKING COUNTY— | | |
| E. H. Everette, Montgomery 5 | 80 | 2891 |
| William Weakley, Scott & Co. 1 | 163 | 2992 |
| MEIGS COUNTY— | | |
| Houston & Co., Powell 2 | ¶ | 2160 |
| Marshall & Reed, L. Romine 3 | ¶ | 954 |
| Racine Gas Co., W. F. Bartells 2 | 3 | 601 |
| PERRY COUNTY— | | |
| Wehrle Bros., Alma A. Board 2 | ¶ | 2785 |
| MEDINA COUNTY— | | |
| Ohio F. G. Co., Newcomer 1 | ¶ | 985 |
| ASHLAND COUNTY— | | |
| Ohio F. G. Co., Lindssey 1 | * | .... |
| Flickinger 1 | ¶ | 2825 |
| Tridline 1 | ¶ | 2928 |
| Shank 1 | ¶ | 2645 |
| HARDIN COUNTY— | | |
| Kenton O&G Co., Ziegler 1 | ¶ | 1330 |
| Hamilton 5 | ¶ | 1345 |
| SENECA COUNTY— | | |
| M. R. McPheron, Fox 5 | 2 | 516 |
| Tiffin Industrial Gas, Nye 1 | ¶ | .... |
| LORAIN COUNTY— | | |
| Ohio F. G. Co., Hance 1 | ¶ | .... |
| Sandrock 1 | * | 2471 |
| Schneider & Wyles, Middleburg 1 | ¶ | 2535 |
| Ohio F. G. Co., Bunt 1 | * | 2500 |
| William Dempsey, Snyder 1 | ¶ | 2308 |
| RICHLAND COUNTY— | | |
| Ohio F. G. Co., Stanley 1 | ¶ | 2792 |
| Harmon & George, Snook 1 | * | .... |
| CUYAHOGA COUNTY— | | |
| Ohio F. G. Co., Crumpler 1 | * | 3150 |
| FULTON COUNTY— | | |
| M. L. Stevens, Brinkman 1 | * | 2018 |
| Roth 1 | ¶ | 2189 |
| KNOX COUNTY— | | |
| Ohio F. G. Co., Cornell 1 | ¶ | 845 |
| Melick 1 | ¶ | 3373 |
| **INDIANA** | | |
| DAVIESS COUNTY— | | |
| Oliphant & Sage, Eva Fuhrman 1 | * | .... |
| SHELBY COUNTY— | | |
| J. Harve Snider, Ira Smith 1 | ¶ | 878 |
| POSEY COUNTY— | | |
| Kentucky Nat. Gas. Corp., Millard & May Robinson 1 | * | 410 |
| **KENTUCKY** | | |
| McLEAN COUNTY— | | |
| W. E. Hupp & Co., Wilson 3 | 75 | .... |
| Givens 1 | 50 | .... |
| Graham 3 | 15 | .... |
| Sunflower Oil & Gas Co., Wright & Rowe 1 | 90 | .... |
| Lion Oil Co., Sutherland 1 | 50 | .... |
| Stinnett Bros., Inez Cox 1 | 100 | .... |
| Hoosier Drilling Co., Wright 1 | 100 | .... |
| Staves Drilling Co., Snell 1 | 50 | .... |
| OHIO COUNTY— | | |
| Cumberland Petroleum Co., Richards 32 | 25 | .... |
| Joseph B. Mayer, Medcalf 16 | 20 | .... |
| Kentucky Nat. Gas Co., Powers 12 | 25 | .... |
| **WEST VIRGINIA** | | |
| GILMER COUNTY— | | |
| Hope Const. Co., Beall 7743 | ¶ | 2100 |
| KANAWHA COUNTY— | | |
| Godfrey L. Cabot Inc., Huntington 50 | * | .... |
| LINCOLN COUNTY— | | |
| United Fuel Gas Co., Mohler 4610 | ¶ | 4410 |
| MARSHALL COUNTY— | | |
| Carnegie Gas Co., McGlumphy 1 | ¶ | 155 |
| PLEASANTS COUNTY— | | |
| W. J. McCullough, Wilson 1 | * | 1635 |
| RITCHIE COUNTY— | | |
| J. T. Deem, Lemon & McGreer 1 | ¶ | 2110 |

*Failures; †Junked; ¶Million cu. ft. gas.


**THE J&S GAS MIXING VALVE**

**Correctly proportions the gas and air at all engine speeds. Easy starting and economical operation are the results.**

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**J & S CARBURETOR CO.**
**705 Ross Ave. Dallas, Texas**

# THE OIL WEEKLY REPORT ON IMPORTANT *Wildcat Tests*

### ALABAMA

HOUSTON COUNTY — Rice O&G Co.'s Oakley Est. 2, se nw sw 9-3n-29e, elev 191 ft, install heavier rig, td 4002 ft.

MOBILE COUNTY—J. C. Prine's King 1, 4-1n-4w, pb to 2600 ft, sd, old td 3186 ft. Grand Bayou O&G Co.'s J. A. Stafford 1, sw sw 24-7s-3w, lcn.

### ARKANSAS

BRADLEY COUNTY — Phillips Pet. Co.'s (Joe Modisett contractor), Brown 1 (formerly carried Byrd 1), ne nw 28-16-12, spd dr 602 ft sand.

CALHOUN COUNTY—I. P. B. Oil Corp.'s Henisberger 1, sw se 9-11-13, elev 207 ft, woc 110 ft.

COLUMBIA COUNTY — Burford & Co.'s Kendrick 1, nw se 8-19s-18w, dr 4105 ft shale. J. C. Buckbee, Tr.'s Cumbie 1, 17-17-18, sd 2745 ft.

CLARK COUNTY—J. G. Wooten's Sparkman 1, 1-11-20, spd and sd.

CLEVELAND COUNTY—Diffie et al's L. C. Ross 1, sw ne 1-11-11, woc 100 ft. R. L. Saxon's L. C. Tipton 1, sw ne 13-11-12, elev 207.4 ft, rur.

DALLAS COUNTY—A. F. Tarver's Wilbon 1, ne se 21-9-13, elev 204 ft, dry abn, td 3056 ft, hd Paleozoic rock. Walter Lown's Atkinson 1, 7-10-13, woc surf cas.

HEMPSTEAD COUNTY—Buffalo Oil Co.'s A. J. Lafferty 2, se nw 17-14-24, 4½ in csg 2443 ft, swabbed flow of fresh water, sd td 2470 ft. H. D. Easton et al's Conway-Tiller 2, sw sw 34-12-27, elev 251 ft, base chalk 740 ft, massive anhydrite 2032-2132 ft, sd 3005 ft sand, high water. Imperial O&G Products Co.'s nw sw 35-12-26, top massive anhydrite 2012 ft, coring 2350 ft. Stewart Oil Co.'s Fee 1, se ne se 31-12-23, dr 900 ft chalk. Louis Hay's State 2, swc 18-14-25, ru and sd, high water.

LITTLE RIVER COUNTY—M. E. Sanderson's Penning 1, ne ne sw 6-13-30, woc 168 ft. Joe Strahan's Dierks Lbr. Co. 1, 21-12-28, mim.

LONOKE COUNTY—J. F. Russell's Gunter 1, se se 17-5-10, dk. Fred Silver's Jos. Chambers 1, sw ne nw elev 229.2 ft, woc 1624 ft.

MILLER COUNTY—Erwin & Leach's Red River Farms 1, 2-17-26, woc 10-in csg 445 ft. Joiner et al's Montana Realty Co. 1, ne nw nw 3-17-28, top red beds 3505 ft, coring 5038 ft, shale. McClanahan et al's Miller Lbr. Co. 1, sw sw 2-18-28, coring 6040 ft shale.

NEVADA COUNTY—Benedum & Trees Oil Co.'s Groves 1, sw sw 10-14-20, tested est 20-25 mil ft gas 1225-85 ft, tested dry 1960-89 ft, dr 2015 ft. Steel & Warmack's Wm. Hayne 1, se se nw 6-14-21, mim.

OUACHITA COUNTY—J. F. Ferris' G. Dean 1, owdd, td 2997 ft.

POPE COUNTY—Ark-La. Gas Co.'s L. C. Smith 1, sw sw se 10-8n-21w, dr 600 ft.

### CALIFORNIA

#### FRESNO COUNTY

CANTUA CREEK — Western Gulf's S.P.L. Co. 3, td 8531 ft, top Middle Eocene 8430 ft, ran blank liner to 8529 ft, perforated 8430 to 8529 ft to test. Mohawk Pet. Co.'s Langer 1, 30-16-15, rig.

#### KERN COUNTY

LERDO—Arkelo Pet. Co.'s No. 41, 23-28-26, dr shale 1214 ft.

LOST HILLS—Associated's No. 6-L-3, 2-26-20, lcn; No. 12-A-3, 11-26-20, lcn; Williamson 4, 2-26-20, td 1785 ft, plug 1550 ft, to test on pump. Lincoln Pet. Co.'s No. 1, 12-26-20, rig. Standard's United 1, 2-26-20, td 6887 ft, plug 5366 ft, to perforate higher up. Texas Co.'s Theta 1, 11-26-20, spud 9/24.

MOUNTAIN VIEW—Associated's Di Giorgio 2, 3-31-29, dr hard sandy shale 5214 ft. Mohawk Pet. Co.'s Earl Fruit 2, 10-31-29, dr sandy shale 4960 ft. Shell's Greer 1, 15-31-29, dr sand and clay 5830 ft.

**ABBREVIATIONS**

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

| | |
|---|---|
| *—*dry hole abandoned well.* | owdd—*old well drilling deeper.* |
| ‡—*salt water (completions).* | owpb—*old well plugging back.* |
| †—*junked and abandoned.* | pb—*plugged back or plugging back.* |
| ¶—*million feet of gas.* | r—*reaming.* |
| abd—*abandoned.* | rog—*rig on the ground.* |
| bbls—*barrels.* | rur—*rigging up rotary tools.* |
| br—*building rig.* | rust—*rigging up standard tools.* |
| b.s.—*basic sediment.* | sd—*shut down.* |
| csg—*casing.* | sdtr—*sidetracking.* |
| co—*cleaning out.* | sg—*show gas.* |
| dd—*drilling deeper.* | si—*shut in.* |
| dk—*derrick.* | so—*show oil.* |
| dr—*drilling.* | so & g—*show oil and gas.* |
| fsg.—*fishing.* | spd—*spudding.* |
| ft—*feet.* | sr—*straight reaming.* |
| hfw—*hole full of water.* | sw—*salt water.* |
| in—*inches.* | td—*total depth.* |
| lcn—*location.* | ur—*underreaming.* |
| m—*milling.* | wih—*water in the hole.* |
| mim—*moving in materials.* | wo—*workover.* |
| mit—*moving in tools.* | wocs—*waiting on cement to set.* |
| mot—*milling on tools.* | wosr—*waiting on standard rig.* |
| n, s, e, w—*north, south, east, west.* | |
| oih—*oil in hole.* | |

GRAPEVINE—Associated's Tejon 1, 17-11-19, sd 3160 ft. Ohio's Title Ins. & Trust D-1, 21-11-19, dr shale 1435 ft. 101 Oil Co.'s Tejon 1, 5-10-19, rig. Reserve Oil & Gas Co.'s Tejon 33-2-, 33-11-19, td 4505 ft flowed 30 bbls hour rate 22.3 gravity oil, sanded up, co, on compressor for 20 bbls hour.

MARICOPA—E. A. Bender's Robinson 1, 14-10-23, dr brown shale 1230 ft.

DEVIL'S DEN—Den Pet. Co.'s Bates 1, 20-25-10, td 1287 ft, redr at 1051 ft.

JASMINE—Doyle Pet. Co.'s Quinn 1, 15-25-27, td 2892 ft, co to pull liner.

EAST EDISON—East Edison Oil Co.'s Tejon 1 21-30-30, td 930 ft, fsh.

ELK HILLS—Elk Hills Pet. Corp.'s No. 1, 14-31-24, sd 5935 ft.

ARVIN—General Pet. Corp.'s No. 1, 26-31-29, dr shale and sand 6615 ft.

BUENA VISTA—Ohio's K.C.L. B-1, 4-32-26, rur.

NO. BELRIDGE—Rio Grande Oil Co.'s Layman 1, 18-28-20, td 2545 ft, redr 1900 ft. Shell's Voight 1, 5-28-20, dr gray sand 3680 ft.

KERN FRONT—Sennon Oil Co.'s Beattie 1, 17-28-27, rur.

TEN SECTION—Standard's K. C. 11-1 19-29-26, dr sand and shale 3260 ft. Superior Oil Co.'s K.C.L. 8, 11-30-26, rur.

COMANCHE POINT—Tejon Ridge Oil Co.'s Tejon 1, 23-32-29, sd 2519 ft, to drop from report.

SO. BELRIDGE—Temblor Range Oil Co.'s No. 1, 24-28-29, sd 933 ft.

SAN EMIDIO—Texas Co.'s K.C.L. C-11-49, 11-11-22, dr shale 9528 ft, last casing 9⅝ in at 8069 ft.

#### MISCELLANEOUS

ALAMEDA COUNTY—Seaboard Oil Corp.'s Johnson 1, 13-3-3, dr sand and shale 4081 ft.

HUMBOLDT COUNTY—Texas Co.'s Eureka 2 22-3-1, td 4428 ft, wocs 11¾ in at 2750 ft.

KINGS COUNTY—Associated's Avenal 1, 35-23-17, td 2930 ft, wocs 8⅝ in at 2830 ft. J. P. Hernall & Associated's Spreckles 1, 16-24-18, td 4201 ft, plug 1985 ft, co. Milheim Oil Corp.'s Resources 1, 20-22-22, td 5810 ft, fsh.

SAN BENITO COUNTY—Associated's Murphy Ranch 1, 5-12-4, dr hard shale 4148 ft.

SOLANO COUNTY—Amerada's Hoppe 1, 22-4-2 dr fine and medium gray sand 6190 ft. Standard's Niel Anderson 1, 27-4-2, dr sand and shale 4450 ft.

TEHAMA COUNTY — Northern Counties Pet. Co.'s Ewers-Mooney 1, 25-24-3, sd 8260 ft.

TULARE COUNTY—J. W. Alford's Williams 1, 28-16-23, rur. Trico Oil & Gas Co.'s Calif. Western 1, 2-23-23, tested wet, sd 1800 ft; Callison 1, 27-21-25, rur.

MONTEREY COUNTY—Shell's Branch 1, 34-24-10, sd 8994 ft; Branch 2 dr shale 2000 ft.

#### SAN LUIS OBISPO COUNTY

CARRIZO PLAINS—Barnsdall-Foster Oil Co.'s Wreden 1, 24-28-17, sd 5083 ft.

ARROYO GRANDE—Birch-Royer Oil Co.'s Patchett 1, 33-31-13, dr hard brown shale 2410 ft. A. T. Jergins Trust's Roderiguez 1, 5-32-13, sd 3654 ft; Roderiguez 2, foundation. R. W. McBurney's No. 1, 23-32-22, rig. Pismo Pet. Co.'s Scott 2, 5-32-13, rig.

HUASNA VALLEY—Union's Porter 1, 32-32-15 dr brown shale 974 ft.

PANORAMA HILLS—United Foreign Oil Co.'s No. 1, 2-32-21, dr gray shale 1802 ft.

#### SANTA BARBARA COUNTY

COAL OIL POINT—Bankline Oil Co.'s No. 2, permit 191, td 4708 ft, redr to 4200 ft, sd.

LOMPOC—O. C. Fields' Santa Rita 1, 11-7-33, sd 2064 ft. Top Row Oil Co.'s Spanne 1, dr hrad shale 1040 ft.

BETTERAVIA—E. H. Moore's Union Sugar A-1, 25-10-35, dr shale 6775 ft.

GATO RIDGE—Petrol Corp.'s No. 1, 9-8-32, lcn.

CASMALIA—Todos Santos Oil Co.'s No. 1 29-9-34, dr shale 1925 ft.

#### VENTURA COUNTY

PIRU—Associated's Wiley Canyon 1, 6-3-11, bldg roads. Torrey-Ventura Pet. Co.'s Torrey 1, 32-4-18, sd 4093 ft.

SESPE—Condor Oil Co.'s Condor 1, 6-4-19, td 1365 ft, redr 1264 ft. Merchants Pet. Co.'s No. 1, 1-4-20, spd 9/24.

SO. MOUNTAIN—Geo. L. Duty's No. 1, 13-3-21, sd 183 ft. Honolulu Oil Corp.'s Hobson 1, dr gray sand, tar spots 4270 ft.

BARDSDALE—El Rancho Oil Co.'s Elkins 1, 9-3-19, td 5109 ft, plug 4990 ft, to test.

BIG SESPE—Supreme Oil Co.'s No. 1, sd 1700 ft.

OXNARD—Vaca Oil Explor. Co.'s Calif. Lands 1, 6-1-21, sd 2830 ft.

VENTURA—Ventura Explor. Co.'s Sexton 1, 30-3-22, td 9525 ft, ran liner, perforated by stages, swabbed water.

#### SOUTHERN CALIFORNIA

NEWHALL—Barnsdall's Rancho S. F. 1, 26-4-17, dr shale thin streaks sand showing gas 3226 ft. Holbrook Pet. Co.'s Newhall L&F Co. 1, 28-4-16, td 3319 ft, fsh. Yant Pet. Corp.'s Yant 5, 1-3-16, td 2734 ft, trying to pull casing.

ARTESIA—M. T. Bernstein's Millard 1, 25-3-12, sd 5910 ft.

COVINA—Charter Oak Oil Co.'s Bright 1, 7-1-9, rur.

GARDENA—Crude Oil Dr. Co.'s No. 1, 31-3-13, dr tough black shale 4860 ft. Standard's Bodger 1, 22-3-14, foundation. Universal Cons. Oil Co.'s Carrell 1, 36-3-14, foundation. West American Oil Co.'s Dominguez Estates 1, 5-4-13, dr sand and shale 5436 ft.

EL NIDO—K. L. Lystle's McKenna 1, 33-3-14, td 7352 ft, plug set 4110 ft.

TORRANCE—Oliver McDowell's McDowell 1, 35-3-13, td 7062 ft, rep machinery.

PALOS VERDES — Pamaco Royalty Co.'s Burkhard 1, 2-5-14, rig.

ASCOT SPEEDWAY—Republic Pet. Co.'s Jordan 1, 24-1-13, rig; Republic Trust 1, td 6141 ft, plug 5925 ft, fsh.

LAWNDALE—Signal Finance Corp.'s Woods 1, 10-3-14, dr shale 8950 ft.

FOX HILLS—Superior Oil Co.'s Inglewood Ext. 1, 25-2-15, dr sand and shale 3660 ft.

SANTA FE SPRINGS—Vanda Pet. Corp.'s Loftus Land Co. 1, 4-3-11, td 7958 ft in oil sand, to set tester at 7900 ft.

ORANGE COUNTY—California Eastern Oil Co.'s Verde 1, 31-3-9, td 4750 ft, fsh. Mesa Oil Co.'s Mesa 1 (Newport) 29-6-10, sd 2121 ft. Shell's Anaheim Sugar 3-1, 7-6-10, sd 3518 ft. West Coast Ref. Co.'s Yorba 1, 25-3-9 (Richfield), dr shale streaks sand 620 ft.

SAN BERNARDINO COUNTY—Equitable Pet. Explor Co.'s No. 1, 11-10-5 (near Barstow) dr hard sand 2810 ft. Tehama Pet. Co.'s Kraemer-Backs 2, 33-2-8, (Puente Hills), dr hard shale 850 ft; Pellisier 1, dr hard sand 1385 ft.

### COLORADO

ADAMS COUNTY — Glenridge Oil Co.'s Hills 1, center south line se se 27-3s-64w, co at 4262 ft.

BOULDER COUNTY—Boulder Producing &

Drilling Co.'s Maxwell 2, sw sw ne 24-1n-71w, dr 2001 ft.

JACKSON COUNTY—Colorado Oil Refining Co.'s North Park Coal 1, cnw nw 18-9n-78w, set 8¼ in csg at 2700 ft.

LINCOLN COUNTY—Consolidated Smelting & Metals Corporation's Hancock 1, ne sw 7-17s-52w, sd 2098 ft with bailer in hole, slight so in Morrison.

PARK COUNTY — South Park Oil Co.'s State 1, se se sw 16-11s-75e, dr 5010 ft and carrying 4¾ in csg at 4985 ft. Company's Lemarr 1, ne ne se 34-11s-75w, dr 1050 ft.

WASHINGTON COUNTY—Indian Territory Oil Co., Foster Mining Corporation and Carter Oil Co.'s Vorce 1, cne ne 28-1s-49w, dr 5784 ft.

YUMA COUNTY—Indian Territory Oil Co.'s Strangways 1, cnw sw 21-2s-43w, abd on encountering granite at 5595 ft.

WELD COUNTY — Continental Oil Co.'s Briggs 2, ne sw 13-6n-61w, dr 5950 ft.

## FLORIDA

HILLSBOROUGH COUNTY — Southern Pet. Co.'s Mizell & Williams 2, se ne 4-32s-21e, temp abn, td 965 ft.

LAKE COUNTY—Oil Dev. Co. of Fla.'s Gulf Expl. Co. 2, se se 17-24s-25e, elev 120 ft, dr 5240 ft, soft shaley limestone.

NASSAU COUNTY—St. Mary's River Oil Corp.'s Bank of Hilliard 1, nw se 19-4n-24e, elev 110 ft, dr (with CT) 706 ft.

POLK COUNTY—Edw. A. Hill, Tr.'s Polk Co. Lbr. Co. 1, nw nw ne 32-25s-25e, elev 90 ft, dk.

## KANSAS

BARBER COUNTY — Sinclair Prairie Oil Co.'s Gentry 1, ne ne ne 1-33s-15w, cor.

BARTON COUNTY—Brouk et al's Keil 1, se se ne 11-16s-15w, testing. Rose & Lants' Redetzke 1, ne nw nw 10-16s-11w, est 4 bbls oil per hr. Yernell & Carlson's Rath 1, ne ne ne 35-18s-12w, set 10-in csg 2118 ft. C. L. Price's Deutsch 1, nw nw ne 16-16s-13w, sd 2125 ft. F. E. Bailey et al's Hammeke 1, nw ne sw 12-18s-12w, sd 315 ft.

BUTLER COUNTY—Dalton et al's Miley 1, csw ne 12-27s-5e, td 350 ft, D & A.

CHASE COUNTY—Propp et al's Fromm 1, se se se 29-18s-9e, sd 2010 ft.

CLARK COUNTY — Olson & Watchorn's Morrison 1, cse sw 17-32s-21w, ssg, o & w, 5430 ft.

DECATUR COUNTY — Winkler & Koch's Vessey 1, cnw se 26-3s-26w, rur.

EDWARDS COUNTY—Stanolind & Elwell's Donovan 1, cse se 14-25s-18w, to skid rig. Royal Pet. Corp. et al's Krupp 1, nw nw se 18-24s-19w, rig.

ELLSWORTH COUNTY—Empire O & Ref Co.'s Kunkle 1, se se se 16-15s-18w, td 3035 ft, D & A.

ELLIS COUNTY — Jones & Shelbourne's Gunther 1, se se sw 9-11s-19w, sd 3577 ft. Bradley Oil et al's Penny Wann 1, se se se 13-15s-20w, 600 ft oih. Empire's Samuelson 1, ne ne sw 31-11s-16w, dr 3430 ft. Bridgeport Mach.'s Ubert 1, ne ne nw 12-13s-18w, set 5-in csg 3506 ft. Trigg et al's Armbrister 1, se se sw 6-11s-19w, dr 2975 ft. Lario O&G Co.'s Cress 1, ne ne ne 13-11s-17w, sd 346 ft. Lario's Marshall 1, nw se ne 36-11s-18w, dr 1546 ft. Champlin et al's Hadley 1, se sw ne 30-11s-17w, rust. Frank Hamilton et al's Sack 1, nw nw se 26-13s-19w, set 5-in csg 3564 ft. Ted Kerr et al's Koblitz 1, se sw nw 23-12s-18w, ur 12-in csg 1418 ft. Wolf Creek Oil et al's Polifka 1, sw sw ne 24-13s-18w, dr 3193 ft. Glick & McMorrow's Staah 1, sw sw se 6-13s-17w, dr 2655 ft. Simar Oil Co.'s Leiker 1, nw nw se 12-15s-18w, dr 2980 ft. Taylor et al's Emery 1, ne ne ne 23-14s-18w, dr 532 ft. Winkler & Koch's Jensen 1, sw sw ne 3-13s-18w, rig. Brouk et al's Jacobs 1, nw nw se 31-15s-16w, dr 100 ft. Vickers Pet. Co.'s Kraus 1, sw sw nw 22-14s-19w, td 3740 ft, pot 250 bbls oil, 20 hrs, comp. Central Com. Co.'s Wagg 1, n nw se 17-13s-21w, pb 3910 ft, pump 80 bbls oil 20 bbls water daily, comp.

GRAHAM COUNTY—Nook & Young's Hills 1, nw se se 19-10s-21w, dr 1960 ft. Sam Murphy and Alcorn's Wamoff 1, cnw nw 27-10s-22w, rr.

GRANT COUNTY—Columbia Fuel Co.'s Gray 1, cse 3-29s-35w, td 2808 ft, shooting.

HASKELL COUNTY—Helmerich & Payne et al's Jones 1, cse 34-26s-34w, td 2764 ft, 3¼ M cu ft gas, comp.

KEARNEY COUNTY—J. L. Murphy et al's Campbell 1, nw nw sw 32-25s-35w, spd & sd.

KINGMAN COUNTY — McBride's Wooldridge 1-A, sw ne se 16-27s-4w, fih 3894 ft, est 1/3 oil.

LINCOLN COUNTY—Graham et al's Smiley 1, ne nw nw 26-10s-9w, rur.

MARION COUNTY—Empire Oil Co.'s Schmidt 1, nw nw se 31-20s-2e, td 3186 ft.

McPHERSON COUNTY—Hawkins et al's Ritikofer 1, ne ne se 2-20s-2w, td 3505 ft, D & A. Skiles et al's Nuse 1, ne ne sw 18-18s-4w, cel.

NESS COUNTY—Newton Dev. Co.'s Tenny 1, nw nw se 19-18s-25w, dr 1292 ft. Sayre Oil Co.'s Ryersee 1, cne se 34-18s-21w, dr 3260 ft.

PRATT COUNTY—H. V. Elwell et al's Fay 1, nw nw se 15-27s-14w, dr 3815 ft. I.T.I.O. and Olson's Bolt 1, cnw ne 5-29s-11w, dr 3890 ft.

RENO COUNTY—Miller et al's Detter 1, ne se nw 28-22s-7w, sd 2849 ft. Pryor & Lockhart's Kerr 1, cnw 22-23s-8w, dr 3300 ft. Foraker et al's Hiett 1, se sw ne 34-24s-4w, sd. Graham et al's Miller 1, ne ne se 36-25s-10w, td 4362 ft, D & A. Clyde Pulse et al's Payne 1, sw nw ne 4-22s-7w, mim. L. R. Page et al's Mueller 1, cs½ sw ne 25-24s-5w, dr 3595 ft. Fred Rust et al's Schmucker 1, se se sw 29-22s-8w, to core. Fred Phillips et al's Ray 1, sw sw sw 7-23s-8w, cor & sd.

RICE COUNTY—Allison & Fitzwilliams et al's Foby 1, nw sw nw 17-19s-7w, dr 2015 ft. Jon Stark et al's Doran 1, ne ne ne 29-20s-8w, dr 3267 ft. Buckley's Bailey 1, sw sw nw 19-20s-6w, rig. Charles Pet. Corp.'s Speck 1, nw nw se 29-20s-8w, dr 545 ft. Sage et al's Patton 1, sw sw sw 5-21s-7w, ur 8-in csg 3185 ft.

ROOKS COUNTY—Lester & Dean's Burrt 1, se se ne 29-10s-2w, dr 1010 ft. L. C. D. Drlg. Co.'s Westhusin 1, cne se 11-19s-17w, dr 2685 ft. J. A. Shoemake's Stebbins 1, ne ne sw 26-7s-17w, pb 2630 ft, co. Buckner & Schoff's McConnel 1, ne ne ne 34-6s-18w, mim.

RUSH COUNTY—Skeeles et al's Grumbein 1, sw sw ne 7-16s-20w, cel. Ralph Wixton et al's Gorham Est. 1, nw nw sw 35-15s-16w, dr 2270 ft. C. L. Sheedy et al's Bison 1, sw sw sw 35-16s-17w, fsg 85 ft.

RUSSELL COUNTY—Hartman & Blair's Johnson 1, nw nw nw 11-13s-15w, woc. Coralena Oil Co.'s L. A. Sellens 1, nw nw nw 17-15s-13w, set 8-in csg 2735 ft. Armer et al's Maier 1, ne ne nw 20-15s-14w, td 3317 ft, hfw. Equity Gas Co.'s Harbauk 1, nw ne se 19-13s-12w, ru. El Dorado Ref. Co.'s Scott 1, nw nw ne 17-13s-13w, sd 835 ft. Braden & McClure's Herbel 1, ne ne nw 35-14s-14w, pot pump 220 bbls oil, comp. Winkler & Koch's McAllister 1, ne ne se 9-12s-13w, dr 2200 ft. Philhan Oil Co.'s Gerstner 1, sw sw se 24-14s-17w, td 3506 ft, D & A.

SALINE COUNTY—Ryan Consolidated and Archer's Norton 1, ne ne ne 30-14s-2w, pump 300 bbls oil 10 hrs. James Brouk et al's Othelander 1, ne nw se 10-16s-13w, ru.

SEDGWICK COUNTY—Lauck's McLean 1, csw se 1-27s-1w, fsg 4125 ft. R. J. Wallace et al's Sheer 1, sw sw sw 22-27s-3w, dr 3075 ft.

SMITH COUNTY—Helmerich & Payne et al's Meyer 1, ne ne sw 10-5s-11w, spd.

STAFFORD COUNTY—I.T.I.O. Co.'s Mellies 1, cn¼ n½ ne 6-22s-11w, ur 8-in csg 3000 ft. Skelly's Kipp 1, se se ne 27-25s-14w, rust. C. E. Skiles et al's Leidigh 1, nw nw sw 21-22s-11w, set 12-in csg 567 ft.

SUMNER COUNTY—Matthews & Derrington's Berry 1, nw nw se 14-25s-1e, sd 3780 ft. The Texas Co.'s Reed 1, ne se se 11-31s-1w, dr 4027 ft. Pryor & Lockhart's McCowen 1, ne ne sw 18-32s-1w, dr 4152 ft. Rosespring's Rutter 1-A, cnw nw 21-33s-2e, spd. Tom Palmer et al's Hull 1, nw ne sw 9-32s-1w, dr 1290 ft. C. L. Husted et al's Evers 1, se se ne 27-21s-2e, sd 220 ft. S. J. Buffington et al's Payne 1, csw ne 10-35s-2e, dr 1365 ft. W. C. McBride & Olson's Kinlund 1, ne nw ne 24-34s-1e, mim. Empire's Hoffman 1, nw nw sw 27-34s-1e, mim.

TREGO COUNTY—Hall et al's Deines 1, se se se 12-13s-24w, fsg 4500 ft. G. M. Pigott et al's Burkett 1, csw 15-11s-22w, sd 3596 ft. McNeely et al's John Lemke 1, nw nw sw 7-11s-22w, woc. York State Oil Corp.'s Gugler 1, sw sw sw 36-12s-21w, rust.

WOODSON COUNTY—Holmes et al's Holman 1, se ne ne 25-25s-14e, dr 615 ft. Tadd et al's Lauber 1, nw nw nw 4-26s-14e, dr 835 ft.

## SOUTH LOUISIANA

ACADIA PARISH—H. E. Dalton's Setting 1, Trilby prospect, 17-9s-1w, sd 2400 ft.

ALLEN PARISH—Humble's Bel 3, Bel prospect, 28-6s-7w, dr shale 1250 ft.

CALCASIEU PARISH — General Crude's Buhler 1, Buhler prospect, 30-8s-9w, dr shale 6642 ft. W. Lahey et al's Bass 1, Nibletts Bluff, 9-10s-12w, ru.

CAMERON PARISH—Magnolia's Johnson Bayou School Land 1, Johnson Bayou prospect, 16-15s-14w, dr shale 3589 ft; Same operator's Raymond LeBleau 1, Big Lake, 13-12s-8w, dk. Pure's State Mallard Bay 1, Mallard Bay prospect, 22-13s-3w, dr shale 2290 ft.

EAST BATON ROUGE PARISH—Cavalier Oil Co.'s Vignes 1, ne of Hope Villa, 40-8s-2e, fsh 5653 ft.

IBERIA PARISH—The Texas Co.'s State Gausse Point 1, Fausse Point, 35-11s-8e, dr dr water sand 5799 ft; Same operator's State Vermilion Bay 1, in Vermilion Bay, 16s-15e, dr shale 8279 ft.

IBERVILLE PARISH — Humble's Wilbert 1, Bayou Blue, 67-9s-11e, ru.

JEFFERSON DAVIS PARISH — Shell's Sturdevant 1, South Roanoke prospect, 25-10s-4w, dr lime 8039 ft. Stanolind's Calcasieu National Bank 1, South Jennings prospect, 15-10s-

ST. MARTIN PARISH—Texas Co.'s Lake Mongouloi 2, Lake Mongouloi prospect, 14-10s-9e, dr water sand 8809 ft.

ST. MARY PARISH—Mike Hogg's Bayou Teche 1, Charenton field, 5-13s-9e, spudded. The Texas Co.'s Bayou Sale 1, Wax Lake prospect, 40-17s-9e, dr shale 3968 ft.

TERREBONNE PARISH—Humble's Ellender 1, Houma gas field, 23-19s-19e, dr shale 1908 ft.

VERMILION PARISH—Continental's Hebert 1, Abbeville prospect, 20-12s-3e, fsh 11,732 ft. Stanolind's Fred Stovall 1, South Abbeville or Inter Coastal prospect, 89-14s-3e driving piling.

## NORTH LOUISIANA

BIENVILLE PARISH—Bowles et al's Bank of Ringgold 1, ne ne 3-15n-9w, top first anhydrite 3215 ft, coring 4985 ft shale and anhydrite. DeSoto O&G Co.'s Dunn & Olsen 1, n½ nw 15-16n-10w, dr 1248 ft shale. J. W. Leonard et al's Courtney 1, se se 5-17n-7w, elev 215 ft, top first anhydrite 4858 ft, top massive anhydrite 5096 ft, top Travis Peak 7015 ft, sg and so 7159-81 ft, arr core, td 7181 ft. McDowell et al's Locke 1, ne nw ne 9-15n-9w, elev 180 ft, sd 165 ft.

BOSSIER PARISH—Humphrey et al's Bulkley 2, 35-21n-13w, sd 2020 ft. United Gas Pub. Serv. Co.'s Skannal F-1, 26-17n-12w, dr 4980 ft; Roos 1, 23-17n-12w, dr 3131 ft.

CADDO PARISH — Prairie River Synd's Hutchinson 1, sw sw 15-15n-12w, elev 152 ft, top Travis Peak 5845 ft, dr 6772 ft. Gulf's Hatcher 1, sw se 11-17n-15w, elev 269 ft, top chalk 1465 ft, top red beds 2589 ft, top second anhydrite 4635 ft, dr 5840 ft lime and shale. J. B. Hutchinson's Storey-Phillips 2, 28-16n-13w, dr 1765 ft.

CLAIBORNE PARISH—E. T. Oakes' Patton Est. 2, ne ne 1-20n-5w, elev 357 ft, dr 5036 ft. Sugar Creek Synd. et al's Darrett 2, se sw 31-20n-5w, fsh, td 8616 ft. United's Taylor 1, 1-19n-5w, dr 2342 ft chalk.

DE SOTO PARISH—J. E. Carlson et al's Garland 1, se nw 7-14n-14w, sd 2165 ft. Payne et al's Harris 1, 11-13n-14w, 10-in csg 61 ft, cored Nacatosh sand, sg 1092-1124 ft, arr drill stem test, td 1124 ft. L. S. Fite's Ramsey 1, 36-11n-11w, top Nacatosh 1120 ft, sd 1450 ft (corrected depth). Armstrong et al's Fee 1, 3-10n-13w, mim. Tarver et al's A. D. Johns 1, 20-16n-14w, spd woc 306 ft.

FRANKLIN PARISH—S. C. Jensen's Bailey 1, c se nw 12-11n-6e, sd 1853 ft, sdy lime.

MOREHOUSE PARISH—Henry E. Rondeau et al's E. M. Clarke 1, ne se 10-20n-7e, sd 3781 ft. Farrell & Jones' D. H. Harp 1, se se 12-22n-7e, rur.

NATCHITOCHES PARISH — Natchitoches Oil Co.'s J. S. Simpson 1, 12-7n-7w, rur. C. D. Morrison's Moffet 1, se se 19-10n-10w, sd 220 ft. Union Pet. Co.'s DeBlieux 2, 83-10n-7w, top chalk 2544 ft, base chalk 2852 ft, top Blossom 3252 ft, sd drilling water well, td 3372 ft.

RED RIVER PARISH—Conley et al's Long-Bell 1, ne ne 19-13n-9w, arr deepen, td 3200 ft.

RICHLAND PARISH—Gulf's R. R. Rhymes 15, nw se ne 32-17n-6e, elev 77 ft, top anhydrite 2936 ft, base red beds 6380 ft, dr 7255 ft shale and sand.

SABINE PARISH—Whitehurst et al's Whitney Corp. 1, c nw ne 8-9n-13w, trying to kill gas flow to set csg, td 5503 ft. A. H. Tarver's Baker 3, ne nw 36-8n-12w, arr deepen, td 5213 ft.

UNION PARISH—Federal Pet. Co.'s Series B U 3014, 34-21n-3e, blew out making gas and sw, killed, tried to mo csg, arr pb and complete at 2100-2200 ft gas zone.

WEBSTER PARISH — W. D. Ambrose's Crichton 1, sw nw 36-18n-9w, elev 257 ft, massive anhydrite 5008-5300 ft, pb and perf csg 5786-5815 ft, making est 40 to 60 mil ft gas and flow distillate, si for gauge, old td 5860 ft. Amerada Pet. Corp.'s Crichton 1, 35-18n-9w, lcn. Federal Oil Corp.'s Crichton 1, 35-18n-9w, lcn. Phillips Pet. Co.'s Burson 1, c w½ ne 34-18n-9w, lcn. Ohio Oil Co.'s Bodcaw Lbr. Co. 1, c ne se 28-21n-10w, dr 4552 ft. R. M. Coyle 1, c ne se 22-21n-10w, dr 3588 ft. United Gas P. S. Co.'s Nixon 1, 22-21n-10w, dr 3938 ft. C. V. Davis 2, c nw nw 23-21n-10w, rur. Magnolia Pet. Co.'s Cox 1, 23-21n-10w, dr 2010 ft. R. W. Norton's Fee 1, 27-21n-10w, mim. Woodley Pet. Co.'s C. G. Gray 1, ne ne 27-21n-10w, dr 2900 ft. R. R. Cox 1, sw sw 23-21n-10w, dr 500 ft; L. C. Cox 1, 28-21-10w, rur.

## MICHIGAN

ARENAC COUNTY — Tamblyn & Martindale's Buffalo Land Co. 1, 7-19n-3e, sd 2690 ft. T. F. Caldwell, Inc.'s Mutch 1, 17-19n-4e, pb from 2972 ft. McClanahan Oil Co.'s Mee 1, 11-20n-4e, sp; Seignious 1, 3-20n-4e, dr 600 ft.

CLINTON COUNTY—St. Louis Pipe & Supply Co.'s Harris 1, 14-17n-2w, dr 900 ft. Petroleum Exploration Co.'s Schneeberger 1, 11-5n-2w, rig.

GLADWIN COUNTY—Olympia Oil & Gas Co.'s Barnes 1, 22-20n-1w, dr lime-shale 3190 ft. D. F. Jone's Doane 1, 33-18n-1e, csg 1050

ft. Muskegon Dev. Co.'s Wineman 1, 33-18n-1e, sw sw se, rig.

GRATIOT COUNTY — Redman Oil Co.'s Duckworth 1, 9-11n-3w, sd 950 ft. Ed Swearer's Alexander 1, 8-12n-2w, dr 890 ft. H. L. McEvoy's Palmeter 1, 18-9n-1w, loc. Chas. Anderson's Askergrad 1, 9-9n-1w, se ne ne loc. Max Pray's Wittig 1, 23-11n-1w, 5-in csg 3080 ft, sd 3088 ft. Ithaca Exploration Co.'s Hart 1, 10-10n-3w, sd 1250 ft. Herbert Snell's Smead 1, 20-11n-4w, csg 1300 ft. John Pentowoski's Sharrar 1, 23-11n-4w, ru, to deepen, td 1000 ft.

HILLSDALE COUNTY—Jacob Beck's Fee 1, 16-6s-3w, dr 500 ft. B. D. Chandler's Bricker 1, sec 11-Wright twp, sd 1450 ft.

ISABELLA COUNTY—Pure Oil Co.'s Embrey 1, 34-15n-6w, dr 890 ft. Mountain Oil & Gas Co.'s Thompson 1, 17-15n-6w, dr 370 ft. McClanahan Oil Co.'s Cook 1, 15-16n-5w, fsg 770 ft. Robins & Hance's Myer 1, 24-14n-4w, loc.

KENT COUNTY—J. H. Hanson's Garbow 1, 3-10n-9w, sd 1000 ft. Michigan Oil Exp.'s Croff 1, 35-10n-10w, sd 5575 ft.

MISCELLANEOUS—Allegan County: Russell Sapp's Hudson 1, 29-2n-12w, sd 860 ft. Alpena County: C. W. Teater's Nevins 1, 18-32n-6e, sd 5450 ft. Iosco County: J. H. Barton's Goupil 1, 9-21n-5e, dr 330 ft. Livingston County: J. E. Flannigan's Curdy 1, 18-3n-5e, sp. Mackinac County: Van Kuren & Montigel, Tr.'s Hiawatha Club 1, 17-44n-9w, pull 5 in to ream 1005 ft to 1158 ft, td 1158 ft, sg 1100 ft, sw 1090-1155 ft. Mecosta County: Colmure Oil Co.'s Bell 1, 6-14n-8w, sg 3170 ft, dr 3300 ft. Missaukee County: M. J. Ingold's Donley 1, 31-22n-8w, fsg 1100 ft. Lenawee County: Socony Vacuum Oil Co.'s Downing Est. 1, 36-6s-5e, csg 5 in 3225 ft. St. Louis Pipe & Supply Co.'s Dibble 1, 16-5s-3e, sd 1600 ft. Montcalm County: Daily Crude Oil Co.'s Weatherby 1, 20-12n-9w, fsg 435 ft. Osceola County: B. M. Keeler's Beall 1, 34-18n-9w, cm 8-in 1007 ft. Harley William's Raaee 1, 15-30n-1w, dr 1400 ft. Saginaw County: Hume Oil Co.'s Schwinger 1, sec 5-Frankenmuth twp, rig. St. Clair County: Pyramid Oil Co.'s Draper 3, Private claim 244-7n-17e, sd 590 ft, sg 570-80 ft. Wayne County: R. E. Letherman's Scheffler 1, 26-3s-8e, sg 1050 ft, dr 1120 ft.

## MONTANA

BIG HORN COUNTY—E. A. Lammers & Son's Berthold 1, se se 6-1s-32e, dr 255 ft.

CARBON COUNTY—East Bridger Oil & Gas Co.'s 1, s se se 23-6s-23e, dr 673 ft. Round Butte Oil Co.'s 2, w ne se 23-6s-23e, dr 328 ft.

CASCADE COUNTY—C. Leonard Smith's Hines 1, se sw se 14-22n-2e, dr 262 ft.

FERGUS COUNTY—Emmons et al's 3, se ne ne 6-21n-18e, dr 700 ft. Judith Operating Co.'s Government 2, w nw ne 35-22n-17e, dr 3010 ft.

JUDITH BASIN COUNTY — Fletcher P. Hunt's Hobson 3, ne 10-14n-15e, dr 1462 ft.

PETROLEUM COUNTY—H. Clark Rowland et al's Kalispell 1, se ne se 25-14n-25e, dr 396 ft.

PONDERA COUNTY—Montana Power & Gas Co.'s Berger 1, cne 31-31n-4w, spd.

SHERIDAN COUNTY—Cheyenne Oil & Gas Co.'s Olson 1, ne ne 15-35n-53e, dr 1510 ft.

TOOLE COUNTY—Jack Reynold's 1, 5-37n-31e, mim.

YELLOWSTONE COUNTY—R. C. Tarrant's Mosser 1, w sw ne 26-3w-25e, dr 1190 ft and carrying 10 in csg.

## SOUTH DAKOTA

FALL RIVER COUNTY—South Dakota Oil Co.'s 1-X, sw ne se 20-10s-4e, dr 3198 ft.

## MISSISSIPPI

BOLIVAR COUNTY—White & Jones' Ballou 1, ne ne 18-24n-7w, arr test 1680 ft.

CLAIBORNE COUNTY—Claiborne County Dev. Co.'s Ruth Hayden 1, 56-11n-2e, lcn. Claiborne Oil & Drlg. Co.'s Crawford 1, 6-13n-4e, elev 115 ft, coring sand with shale and lime 1610 ft.

GRENADA COUNTY—H. T. Salter et al's Carpenter 1, nw se 5-21n-7e, elev 344 ft, rebldg dk.

HINDS COUNTY—Chichester et al's Gerwin 1, sw nw 12-5n-4w, elev 153 ft, rur.

KEMPER COUNTY—R. A. Keaton et al's Buckwalter Lbr. Co. 1, nec 6-10n-14e, dk.

LAMAR COUNTY—Sun Oil Co.'s Scanland & Semmes 1, c sw ne 28-4n-15w, woc surf csg.

PERRY COUNTY—Fred E. Courson's Newman Lbr. Co. 1, nw nw 26-1n-9w, dk.

SIMPSON COUNTY—Goodwill O&G Co.'s Berry 1, 33-2n-4e, dk and mir.

WILKINSON COUNTY—T. S. Stoneman et al's L. T. Ventress 1, ne sw 38-2n-3w, dr 500 ft.

YALABOUSHA COUNTY—G. M. Langston et al's W. C. Bryant 1, ne sw 21-24n-6e, elev 276 ft, dk and mir.

## NEBRASKA

DAWES COUNTY — Stephens Petroleum Corporation's S. J. Palmer 1, northwest corner nw sw 1-33n-50w, dr 1400 ft.

GRANT COUNTY—Byrd-Frost, Inc., and Magnolia Petroleum Corporation's 1, 11-24n-38w, dr 1695 ft.

SIOUX COUNTY—J. M. Huber Corporation's Morgan 1, csw sw 32-35n-56w, dr 1610 ft.

## NEW MEXICO

LEA COUNTY—Argo Royalty Co.'s B. T. Lanehart 1, sw se ne 21-25s-37e, elev 3071 ft, set 8⅝ csg at 2698 ft, so&g 2936-44 ft, dr 2980 ft. Baldridge et al's Blakey 1, c nw ne 5-20s-38e, e of Monument, elev 3586 ft, dr 210 ft. Brown & Reynolds' Parcell 1, c nw se 8-21s-38e, elev 3573 ft, cem cas 298 ft. Amon G. Cater et al's Elliott 1, c nw nw 22-22s-37e, lcn. C. & G. Oil Co.-The Texas Co.'s Ellen Weir 1, c ne ne 14-20s-37e, elev 3564 ft, top anhydrite 1348 ft, td 4074 ft (SLM), pulled in dk. J. C. Clower et al's W. H. Turner 1, c se se 29-21s-37e, dr 1200 ft. Barney Cockburn & Rowan-Nichols Oil Co.'s H. G. Mattern 1, c sw se 7-22s-37e, elev 3426 ft, td 3789 ft, flows 10 bbls net oil with water daily, may re-cem cas. Conoco & California Co.'s E. M. Elliott 1-A-15, se se se 15-22s-37e, elev 3354 ft, dr 2500 ft; Elliott 1-A-21, ce se se 21-22s-37e, elev 3338 ft, flows by heads after shot, td 3559 ft. Culberson, Erwin & Stovall's J. R. Stuart-Repollo 2, nw se se 10-25s-37e, dr 1200 ft. Emperor Oil Co.'s State 1, c sw sw 5-21s-35e, elev 3652 ft, sd 1630 ft. J. E. Farrell et al's Walden 1, c sw sw 15-22s-37e, dk. Gulf Oil Corp.'s L. M. Buffington 1, c nw sw 13-25s-37e, elev 3091 ft, pb fr 3903 ft to 3369 ft, cem 5½-in pipe to test. Harry W. Leonard et al's B. T. Lanehart 3, c ne nw 21-25s-37e, elev 3081 ft, machine. Magnolia's E. O. Carson 2, c nw nw 33-21s-37e, elev 3471 ft, gas show at 2542-2548 ft, dr lime 3598 ft; John Scharbauer-Eidson 1, c nw se 29-16s-35e, elev 4014 ft, contract completed at 5010 ft, to dd. Ohio Oil Co.'s Anna Walden 1, c ne ne 21-22s-37e, elev 3364 ft, gas show at 3458-3490 ft, fsh 3636 ft. N. G. Penrose & Rowan-Nichols Oil Co.'s Will Cary-Humble 3, c se nw 22-22s-37e, elev 3364 ft, sd 1150 ft. Plains Prod. Co.'s J. A. E. Knight-Humble 2, c ne sw 14-24s-37e, cellar. Repollo Oil Co.'s


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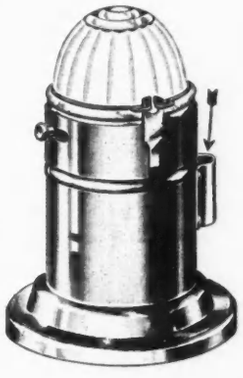

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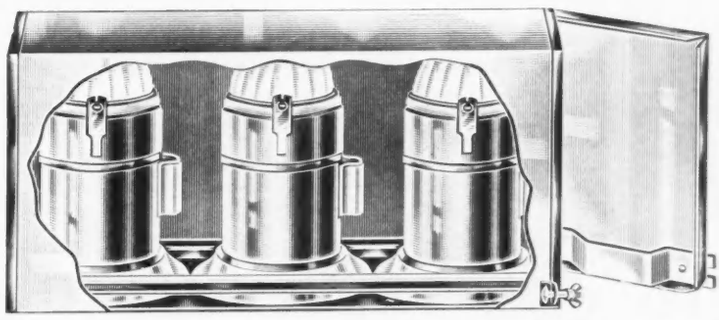

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York 1, se se ne 20-21s-37e, semi wildcat, 1 mi n of prod in North Eunice sandy lime belt, rig; Jamison 1, sw se ne 21-24s-37e, rig; M. J. Boyd 2, nw nw nw 23-22s-37e, lcn. Republic Prod. Co.'s R. S. Crosby 2, nw nw sw 28-25s-37e, elev 3024 ft, made about 160 bbls into pits in 14 hrs from 3310 ft, shot at 3150-3260 ft, est 4,000,000 ft gas with spray oil and water. Rushwold Oil Co.'s E. E. Carter 1, c nw ne 30-20s-39e, wildcat near Nadine, sp and sd. Skelly Oil Co.'s Ellen Sims 1-A, c sw se 3-22s-37e, elev 3300 ft, td 3622 ft, flowing 224 bbls daily, testing; G. W. Sims 1, c ne nw 10-23s-37e, dk; W. P. Sims 1, c ne ne 10-23s-37e, dk; F. S. Stuart 1, c ne nw 15-25s-37e, elev 3107 ft, shot 130 qts nitro 3364-3416 ft, pb to 2230 ft, sdo. Stanolind O&G Co.'s P. J. Langley 1, c se nw 15-25s-37e, elev 3109 ft, dr 2960 ft. W. H. Street et al's Wood-Humble 1, near c se ne 22-22s-37e elev 3355 ft, dr 515 ft. The Texas Co.'s E. D. Fanning 1, c se ne 4-24s-37e, elev 3293 ft, pb fr sul w at 3701 ft to 3656 ft, shot 300 qts at 3543-3634 ft, completed, pumping 25 bbls oil 6 hrs; Jas. F. Black 1, c sw ne 21-24s-37e, elev 3220 ft, dr 425 ft; J. D. Young 1, se se se 5-24s-37e, elev 3277 ft, dr 1570 ft. Talbot and Mullineaux's Quincy-Ricker 1, c se se 7-16s-36e, sd 200 ft.

### OKLAHOMA

ATOKA COUNTY—A. J. Sanders et al's Redden 3, se sw sw 19-1n-15w, dr 570 ft.

BECKHAM COUNTY—Mid-American Oil Co.'s Biscoe 1, sw sw sw 28-8n-22w, dr 875 ft, sg.

CADDO COUNTY—Wasteka Oil Co.'s Griffin 1, sw se ne 27-6s-10w, testing.

CARTER COUNTY—The Texas Co.'s Cathey 1-B, se ne ne 6-5s-1e, woc. Hammond et al's Lile 1, sw se se 8-5s-1e, td 570 ft, mach moved out.

CLEVELAND COUNTY—H. R. Hollenback et al's Stinson 1, nw nw ne 17-9n-2w, rig.

COAL COUNTY—Sinclair Prairie Oil Co.'s Culver 1, ne ne sw 16-1n-8e, dr 5250 ft. Continental's Kirby 1, sw se sw 23-1n-8e, dr 1525 ft. Continental's Breedlove 1, nw sw sw 24-1n-8e, cor. Carter's Warne 1, ne ne nw 31-3n-9e, dr 1600 ft. Shell Pet. Corp.'s Hill 4-A, cnw nw 30-3n-10w, spd. Continental's King 1, ne sw ne 26-1n-8e, cor. Mitchell's Quiett 1, ne nw sw 35-1n-8e, swedged out ssg.

COMANCHE COUNTY — William Davis' Aetna Life Ins. Co. 1, se ne ne 22-2n-15w, sd 160 ft. L. D. Wise et al's Cones 1, se se sw 11-1n-10w, ru & sd.

COTTON COUNTY — Phillips Pet. Co.'s Warren 1, ne ne se 1-5s-13w, td 1568 ft.

GARVIN COUNTY—Luttrell et al's Howell 1, nw se nw 34-1n-1e, sd. B. F. Lundy's G. C. Prince 1, ne ne se 32-1n-2w, co 2552 ft. Ellison & Hammond et al's Silby 1, cnw nw 24-2n-3w, mit. Tide Water Oil Co. et al's Sturdevant 1, ne ne nw 28-4n-1e, dr 2970 ft. Pure Oil Co.'s Isaac 1, se se se 6-2n-1e, loc.

GRADY COUNTY—Art Holt et al's Ramsey 1, ne se ne 31-5n-8w, der. Graham et al's Castleberry 1, sw se nw 8-5n-7w td 1909 ft sd. Ray Stephens et al's Mays 1, ne ne ne 31-5n-8w, dr 5400 ft.

HARMON COUNTY—Lioalko Trust, Ltd., Crasnoe 1, se se sw 14-3n-25w, co 2600 ft.

HUGHES COUNTY—T. P. McAdams & Barnes' Koch 1, sw ne ne 1-9n-10e, pb 2600 ft, woc. Southern Oil Co.'s Buck 1, se ne sw 21-8n-10e, rust. Sivil et al's Montgomery 1, nw sw nw 7-9n-9e, dr 3530 ft.

JACKSON COUNTY — Jackman's Fee 1-A, sw sw sw 27-1s-24w, td 3001 ft, D & A.

JEFFERSON COUNTY—Red River Oil Co.'s Trout 1, se ne ne 6-8s-7w, td 2212 ft, mi mach. Pearson et al's Douthitt 1, ne ne ne 24-6s-9w, dr 3615 ft. Mid-Continent Pet. Corp.'s Reid 1, csw nw 32-6s-4w, mirt.

KAY COUNTY—The Texas Co.'s Fulton 1, se se se 18-27n-4e, dr 2744 ft. Denver P&R's School 1, se nw ne 13-26n-1w, pb, woc. Robert Wilson et al's Dickerson 1, ne ne sw 20-29n-1w, dr 2935 ft. Max Kelly et al's Johns 1, nw nw nw 35-27n-4e, dr 405 ft.

KIOWA COUNTY—Travis & Scott's Daoyle 1, ne se sw 21-5n-17w, td 937 ft. Argus Pet. Co.'s Osbourn 1, nw nw ne 9-7n-16w, ur 6-in csg 795 ft. Rush C. Roberts et al's Funkhouser 1, se nw nw 25-7n-17w, dr 525 ft. Lykins et al's Aetna Life 1-A, se se se 8-5n-16w, fsg 530 ft. Pendleton & Vaughn's Smart 1, se nw se 12-6n-17w, dr 350 ft.

LINCOLN COUNTY—Kemp & Continental's Lobaus 1, nw sw nw 21-17n-5e, rig. Skelly's Sporn 1, nw ne sw 21-17n-3e, rur.

LOGAN COUNTY—Helmerich & Payne's Hasler 1, nw nw se 14-16n-4w, spd. Anthony & Marshall's Fruin-Eckman 1, se se sw 4-16n-1e, bailing.

LOVE COUNTY—Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, pb 8133 ft. Riddle et al's Johnson 1, csw se 20-8s-2w, td 4009 ft, tools moved out.

MARSHALL COUNTY — Helmerich & Payne's Taliaferro 1, nw se sw 26-5s-5e, dr 5538 ft.

McINTOSH COUNTY—Deickman's McIntosh 1, se se se 4-12n-17e, sd 1270 ft. Stanolind & Ramsey's Tiger 1, nw nw sw 13-9n-15e, spd.

MURRAY COUNTY—Hernsby & Jones' Sadler 1, ne ne nw 20-1n-2e, td 2674 ft. Power Oil Co.'s Lancaster Trust Co. 1, csw ne 10-1s-2e, dr 1630 ft.

PITTSBURG COUNTY — Oklahoma Dist. Co.'s Beeler 1, ne ne sw 7-7n-14e, dr cement. Pendelton & Vaughn's Hobbs 1, cse nw sw 7-6n-16w, to shoot and acidize.

SEMINOLE COUNTY—Rudco O&G Co.'s Butner 1-A, ne ne sw 15-9n-8e, sd 1950 ft. Kennedy et al's Bowlegs 1, nw nw se 3-8n-7e, loc. Amerada et al's Yarhola 1, ne nw nw 36-10n-7e, spd.

STEPHENS COUNTY—Ed Parson's Olson 1, csw sw 21-2n-8w, dr 300 ft. The Texas Co.'s Bohanan 1, ne nw nw 15-3s-15w, mach. T. M. McCasland's Hildebrand 1, sw sw ne 1-3s-1w, sd 4601 ft.

TEXAS COUNTY — Allison & Barnhill's Bingley 1, sw sw ne 30-2n-18e cm, ur 8-in csg 1025 ft.

TILLMAN COUNTY—Bernheim's Tate 1, ne ne nw 16-1s-19w, td 3001 ft, sd. Beal & Toler's Magell 1, se se se 18-1n-16w, td 250 ft, sd.

### EAST TEXAS

BOWIE COUNTY—Fay T. Chew and Brassett's Byron Barkinson 1 (90-ac), J. W. Parkham sur, 2½ mi n Leary, sp and sd. Ferguson and Hill's A. Y. Breckenridge 1, Nancy Dycas sur, 4 mi w Texarkana, sp and sd. Woodley and Bentley's J. D. Lumpkin 1 (245-ac), John McDermott sur, 1¼ mi sw Dalby Springs, elev 290 ft, Annona chalk 1665-2090 ft, sd 3665 ft.

CHEROKEE COUNTY—John G. Mayo et al's E. W. James-Pure 1 (30-ac), Jessie T. Jones sur, 4½ mi sw Rusk, elev 320 ft, dr 3700 ft.

COLLIN COUNTY—Port Bolivar Co.'s O. C. Durning-Clarkston 1-A (140-ac), Wm. Creager sur, Pat. 1193, elev 722 ft, show gas 4039-70 ft, sd 4094 ft; A. Shirley 1 (50-ac), Gwynn Morrison sur, 1 mi e Anna, dk.

DELTA COUNTY—W. S. McGee et al's Mrs. P. W. Miller 1 (52-ac), E. Spencer sur, 1 mi sw Cooper, elev 465 ft, top Georgetown lime 3040 ft, fsh 3136 ft.

FALLS COUNTY—J. Edward Mills et al's Sam Grucholski 1 (40-ac), Dennis Herold League, 5 mi sw Kosse, elev 521 ft, Austin chalk 2765-2946 ft, Georgetown lime 3544-3825 ft, top Edwards lime 3867 ft, top upper Glen Rose 4074 ft, sd acct high water 4114 ft.

FRANKLIN COUNTY—Atex Oil Co.'s R. L. Jaggers 1, J. Humphreys sur, 1½ mi nw Winfield, elev 398 ft, Pecan chalk 1810-1850 ft, sd 3018 ft. Virginia Hudson et al's B. M. Patterson 1, E. Rice sur, 3 mi sw Hagansport, elev 411 ft, dk.

FREESTONE COUNTY—Fred R. Lovering et al's E. Bonner-Scott 1 (23-ac), H. Awalt sur, 7 mi n Fairfield, sd 1500 ft. Roger Steward and Velvet Oil Co.'s E. H. Beauchamp 1 (100-ac), E. Greene sur, 4 mi nw Fairfield, mim. Red Lake Oil Co. et al's M. Wheeler 1 (160-ac), J. Y. Aguilera sur, 3 mi se Turlington, cem surface cas.

GRAYSON COUNTY—Olson Drl. Co.-Jas. H. Gardner et al's D. R. Uttiger 1 (160-ac), P. P. Cady sur, A-301, 3 mi ne Pottsboro, rur for 6000-ft test.

HENDERSON COUNTY—Wm. McDougal, Tr. et al's Elvira Price 1 (216-ac), M. Matthews sur, 3½ mi s Trinidad, elev 294 ft, sp and sd. S. Sparks, Keeley et al's Theo. H. Berry 1, Aaron York sur, No. 847, 5 mi s of Brownsboro, mim. H. L. Parsons-Atex Oil Co.'s H. L. Wyatt 1 (140-ac), Simon Sanchez sur, 3½ mi sw Chandler, elev 346 ft, Pecan chalk 3030-3150 ft, Austin chalk 4200-4550 ft, top Woodbine series 4817 ft, dry and abd in sw 4932 ft.

HOPKINS COUNTY—Empire O&R Co.'s J. E. Worsham 1 (150-ac), Alex O. Wetmore sur, Sulphur Bluff area, lcn. Walter L. Goldston et al's H. J. Smith (250-ac), Jas. A. Craft sur, Sulphur Bluff area, Pecan chalk 1511-1601 ft, dr 2000 ft.

HOUSTON COUNTY—E. R. Mount, Branch et al's Dr. P. S. Griffiths 1 (136-ac), Frank Johnson sur, 3 mi nw Crockett, rig. Robert Reagan, J. C. Barnett et al's A. B. Spence 1 (75-ac), J. F. Martin sur, ½ mi sw Grapeland, lcn abd.

HUNT COUNTY—Penn Oil Corp.-Elmer S. and Fox Wood's A. B. Manning 1 (57½-ac), Sally Owens sur, 5 mi ne Lone Oak, elev 599 ft, dk.

KUAFMAN COUNTY—E. G. Colton, R. P. Lester et al's Barrow Bros. 1 (40-ac), J. D. Taylor sur, 8 mi ne Elmo, elev 528 ft, top Georgetown lime 4194 ft, top Paluxy series 4773 ft, top upper Glen Rose 5165 ft, top massive anhydrite 5742 ft, td 5968 ft, pb to 2400 ft, dr by junk 2700 ft.

LAMAR COUNTY—J. A. Forester et al's J. S. Woodward 1 (18¾-ac), J. W. Woodward sur, 1½ mi e by s of Minter, elev 402 ft, top Georgetown lime 2256 ft, Paluxy sand 3060-3144 ft, top anhydrite 3735 ft, base hard anhydrite 4075 ft, broken to 4105 ft, sd 5129 ft.

LIMESTONE COUNTY—C. F. Lytle et al's

J. L. Thompson 1-T, w side Mexia field, elev 549 ft, tested salt water with show gas in lower Trinity series, dry and abd 6059 ft.

NAVARRO COUNTY—Calto Oil Co.'s Etta Black 1 (266-ac), B. G. Balthorp sur, 2 mi sw Bazette, mim for 6000-ft test P. S. Groginski's S. P. Love 1 (128-ac), Richard Goad sur, 3 mi sw Corsicana, elev 422 ft, Austin chalk 1153-1525 ft, dr 2050 ft.

RED RIVER COUNTY—J. S. Abercrombie Co.-Harrison Oil Co.'s Southern Pine Lumber Co. 2 (392.37-ac), D. D. Bruton sur, dr shale and lime 1907 ft. J. F. Farrington et al's W. T. Morris 1 (351-ac), Joseph Guest sur, elev 478 ft, dr 1100 ft. F. D. Jones et al's Monkhouse Bros. 1 (125-ac), John Ware sur, 10 mi n Clarksville, top Georgetown lime 736 ft, sd to test, td 1147 ft. Dale Sneed, R. H. Manning and Texfornia Co.'s Hooker-Hughes 1 (80-ac), MEP&P Ry. sur, No. 642, 6 mi sw Lydia, elev 307 ft, Pecan chalk 995-1302 ft, top Austin chalk 2018 ft, sd 2722 ft. M. Petroff et al's R. G. Morris 1, Joseph Guest sur, 2 mi w Detroit, sp and sd.

ROBERTSON COUNTY—J. Edward Mills et al's Tony Congelosi 1 (75-ac), Geo. A. Nixon sur, 3½ mi sw Hearne, sd acct high water, td 1820 ft.

RUSK COUNTY—John W. Merritt et al's J. A. Stallings 1 (47-ac), Thos. Uzzell sur, 2½ mi s Eatex field and ¼ mi sw Pleasant Grove, sd 1920 ft.

SMITH COUNTY—Carolyn and Hastings et al's Bennett 1 (80-ac), Robt. Walters sur, 3 mi ne Winona, dr 750 ft.

UPSHUR COUNTY—B. L. Watson et al's W. O. Irwin 1, D. R. Cannon sur, 3 mi ne Coffeeville, pits.

WOOD COUNTY—G. W. Nix et al's Mrs. E. A. Russell 1, John Delap sur, 4 mi w of Golden, dk.

## EAST TEXAS BORDER COUNTIES

HARRISON COUNTY—Overtex Oil Co.'s Platt 1, F. C. Baker sur, elev 276 ft, arr abn, td 5167 ft. Weiss et al's W. L. Rudd 1, Wm. Steele sur, lcn. Hanover, Bergendoll et al's Buchanan 1, Wm. McIlvain sur, dr 4128 ft.

PANOLA COUNTY—Gulf's Pierce & Chesbro 1, J. H. Shahan sur, elev 233 ft, massive anhydrite 3778-5012 ft, tested 160 ft mud and sw in 15 minutes through ⅜ in choke 5120-38 ft in 8 ft lime, arr core ahead. A. C. Glassell's Frost Lbr. Co. 1, Mary S. Potts sur, elev 216 ft, massive anhydrite 4632-4840 ft, sg 4890 and 5663-75 ft, tested sw 4994-5004 ft, sg 5897-5901 ft, coring 5940 ft. Danciger O&R Co.'s J. W. Tatum 1, Alfred Bissell sur, sd 21 ft. Logansport P. L. Co.'s Rushing 1, Mannan Smith sur, elev 180 ft, sd 2694 ft. Magnolia Pet. Co.'s E. A. Hull 1, Thos. Applewhite sur, rur. Motex Oil Co.'s J. M. Furrh 1, J. M. Alston sur, lcn

SAN AUGUSTINE COUNTY—Hindman et al's Cartright 1, Santiago Carni sur, dr 3469 ft.

SHELBY COUNTY—Rubeling & Potter's O. H. Polley 1, Wm. Whisner sur, sd for heavier rig, 4200 ft. Mulroy & Curtin's C. Hayden 1, D. F. T. Yordt sur, dr 2248 ft. H. A. Stebbinger et al's Pickering Lbr. Co. 1, C. E. Henry sur, 5-in csg 4998 ft, tested est 5 mil ft gas and 48 bbls dist per day, si, td 5029 ft oolitic lime E. L. Chapman et al's Pickering Lbr. Co. 1, C. E. Henry sur, old well treated with acid, showed considerable oil, si for tanks and separator, td 3840 ft.

## SOUTH TEXAS

ATASCOSA COUNTY—Atascosa Trust's U. A. Doumch 1, 152-ac tr, blk 10, J. T. Russell sur No. 1222, 3 mi n Poteet, set 7-in cas 3460 ft, top chalk 3503 ft, td 4008 ft, pb to 3500 ft, acidized with 2000 gals, swabbed dry after acidizing, stood 10 hrs, swabbed to btm and stood 50 ft fluid in hole, rec abt 3 bbls oil and fluid, abd 4012 ft. Helvetia Oil Co.'s Susie Pratt 1, 176-ac tr. F. de la Garza sur No. 46, 1 mi nw Anchorage, sand and sandy shale 2249-2300 ft, set 7 in cas 2245 ft, swabbed abt 3 bpd 44 grav oil, td 3116 ft, pb to 3000 ft, set 800 ft of 4½-in liner, swabbed dry through tubg, pulled liner, dr below 3575 ft and out of serp. L. W. Stieren's A. A. Crawford 1, 660 ft out of se cor sur, 160-ac tr in J. O. Crawford sur 69, lcn will go to Edwards.

BASTROP COUNTY—American Pet. Exploration Co.'s Martha Freytag 1-A, 50 ft e No. 1, sd 410 ft. Joe E. Mills' Chas. W. Eskew 1, 600 ft nwl, 1525 ft swl Chas. W. Eskew 278.5-ac tr Samuel Wolfenberger sur 18, lcn. Paul C. Teas' Clement Vinklarek 1, 100-ac tr, S. Millet league, 10 mi s Smith Villa, top Wilcox 1320 ft, top Carrizo 1250 ft, dr 4784 ft in Navarro.

BEE COUNTY—W. V. Bowles' C. Mengers Sr. 1, W. Allen sur, 100-ac tr, 4½ mi w of Skidmore, ran electrical formation test at 5280 ft, running second test at 6010 ft. Devonian Oil Co.'s Manning 1, 1650 ft sel, 1650 ft nel, Manning tr, J. Poitevant sur 1, 5 mi w and slightly s of Mineral, lcn. Humble Oil & Refining Co.'s Mrs. M. M. McKinney 9, 2705-ac 4000 ft sel, 3990 ft nel, L. C. Randolph sur, 1¾ mi se Pettus, lcn. Randon Oil Co.'s Handy Bros. 1, center nl and sl dividing blks 12 and 13, Howeth & Swiger subd of Handy ranch, Jeremiah Tool sur, ab 66, 6 mi ne Skidmore, dr 4300 ft. Siznod Oil Corp.'s A. M. Holzmark 1, 20-ac lse, in Samuel May sur, 1½ mi se Voss field, td 4091 ft, dst 4081-91 ft, showed 300 pounds pressure and 20 ft oil in mud in 10 min, coring deeper. Sure Oil Co.'s N. L. McKinney 1, J. W. Williamson sur, 1 mi n Tuleta, abd 4245 ft.

BEXAR COUNTY—Algra Oil Co.'s Edward C. Peters 1, sur 5, sec 4, Miguel Gotari sur, 13 mi se San Antonio, 8 in cas formerly set 435 ft lowered to 478 ft, sd 510 ft. American Gas Co.'s Oliver 5, 400-ac tr, M. F. Rodriguez sur, dr 3250 ft. Carter & Ingersoll's Louis Mann 1, 83.5-ac tr, Stephen Jett sur 53, 3 mi s Von Ormy, waiting on rotary rig at 1357 ft. Mayers & Smith's H. E. Bass et ux 1, 75.5-ac tr, F. A. Ruiz sur 47, 2 mi se Von Ormy, lcn for 1100 ft Austin chalk test, lowering 8 in cas to 600 ft. W. R. Swearington et al's Franz Woefler 1, 70-ac tr, Jose de la Garza sur, ¾ mi ne Elmendorf, abd 1571 ft. Woodward & Hardie's R. W. Devilbiss 1, John Devilbiss sur, 1 mi s Thelma, td 2284 ft, set 7 in cas 2204 ft, swabbing rainbow oil, some gas.

BROOKS COUNTY—The California Co.'s Mrs. B. Garcia 1, tr 3 Las Mestinas de Gonzalina gr, Alta Mesa dist, td 8022 ft, pb and perf 3020-28½ ft well, made water with scum of oil, cemented perf, reperf 3025-28½ ft, comp 75 bpd gas device, pb to 2500 ft, perf 2459-77 ft, production increased to 50 bpd. Magnolia Pet. Co.'s Ed Lasater 1, 330 ft nl and wl of S. Korkill sur 440, 9 mi w Falfurrias, digging pits.

BURLESON COUNTY—M. R. Exploration Co., Inc.'s J. M. Fountain 2, in W. Raleigh sur, blk A-47, 1700 ft sel, 3225 ft nel of 963-ac tr, dr 350 ft. Red Bank Oil Co.'s Nellie Gramm 1, Eliza Santef sur, abt 2500 ft nw of Co.'s No. 1, Gramm, 7 mi w Chreisman, td 4935 ft, pb to 4500 ft to straighten hole, dr in shale 4894 ft.

CALDWELL COUNTY—Brown Dr. Co.'s W. J. Pope 1, John D. Rains sur, 8 mi se Lockhart, dr in shale 1625 ft. Marts & Beavens et al's Mrs. A. Moody 1, 189-ac lse, S. Seal sur, 2 mi Wheeling, td 2175 ft, top chalk. J. G. McKenzie's J. M. Pierce 1, S. Seal league, w of Luling, ru. H. B. Starkey's (J. J. Elam et al) Francis-Brown-Cochran 1, W. F. Young sur, 3 mi e Luling, sand with so&g, 1742-47 ft, set 5 3/16 in cas on packer, completing when bailer blown out of hole, attempted to core in sdtr hole 1735 ft, went into old hole, dr sh 1787 ft. Taylor Ref. Co.'s Denie Miears et al 2, in Dale area, 411.12 vrs (1142 ft), se No. 1 Miears, 250 vrs fr sel, 54 vrs fr nel (road) of A. J. Miears 134-ac tr, Nicholas Kelly, lcn.

CALHOUN COUNTY—Continental Oil Co.'s Austin 1, sec 12, blk "H" Pedro Garcia sur, 1 mi n of other heaving shale wells, Seadrift prospect, sec 11, ¾ in cas at 6598 ft, td 8825 ft, ds stuck at 8521 ft, set cas on btm, ran 2½ in tubg to 8521 ft, swabbed down to 8400 ft, cutting out 6 in cas, pb td 8521 ft, first cement job failed to hold, cemented again, set w/s 8471 ft, dr in sdtr hole 8495 ft. Hiawatha Oil Co.'s John Roemer 1, J. J. Ogsberry sur, 8 mi s Port Lavaca, td 7560 ft, set 8⅝ in cas 5900 ft, dr sh 7560 ft.

DE WITT COUNTY—Universal & Glaspie's Schubel 2, 300 ft ne No. 1, td 1560 ft, prep to test a little show, drop.

DUVAL COUNTY—Benedum & Trees' Clara Driscoll Sevier 1, Driscoll 6039-ac tr Palo Banquite gr, 2 mi nw Realitos, td 1010 ft, dr plugs. Frank Buttram's N. L. & J. Co. 1, sur 102, 5 mi nw Eagle Hill, sd 1925 ft, woo. Tom Graham's S. Sutherland 2, ne¼ sur 188, 3 mi e Peters field, abd 2713 ft. Frank J. Gravis' Gravis et al 2, sur 250, 10 mi sw San Diego, coring 4020 ft. Harvey & Henderson's J. F. Welder heirs 1, 80-ac in sur 102, sp. Lipscomb & Daubert's W. R. Peters 1, J. Tigert sur 321, 2½ mi e Lopez field, dr 750 ft. Pan-American Prod. Co.'s J. F. Welder heirs 1-H, 160-ac lse in sur 103, 1 mi sw of Loma Vista, showed gas on dst of upper Loma Novia sand, dr to 3006 ft, pb to 2866 ft, set 7 in cas 2822 ft, bad cement job, cement cas for 4th time, swab dry through cas, bridge of 1000 ft in hole, co bridge, pb 2863 ft, 7 in cas 2825 ft, cleaning out at 3006 ft. Rogers & Rogers' Valdez 1, 80-ac lse, Mesquite gr, td 3500 ft, sand 2938½-48½ ft, set cas, tested dry, abd after showing g&o and sw in sand 2938 ft. Shell Pet. Corp.'s J. M. Taylor 1, nw/4 sur 214, 3 mi sw Seven Sisters field, dst 2847-68 ft, rec 120 ft, brackish muddy water no pressure, slight show of gas ⅜-⅝ in chokes, 10 min, td 3156 ft, pb and perf 2819-25 ft, tested sw, pb 1710 ft, perf 1569-71 ft with 30 shots, show sw and some o&g, abd 3125 ft; J. F. Welder heirs 1-B, 79.3-ac lse in sur 69, 1¼ mi n of Loma Vista field, 3 attempts to dst in sandy shale 2863-74 ft failed, td 3242 ft in shaley gray water sand, run electric formation test, pb, td 2874 ft in sh, set cas, bad cement job, recemented, made squeeze cement job, pb 2854 ft, swabbing, pb hole. E. R. Thomas et al's Atlee Parr 1, 12.59-ac tr, sur 26, sand 4002-10 ft, set cas on btm, perf, swab-


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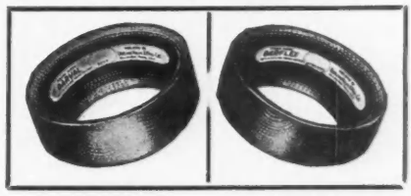

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bed dry, 5 in liner, sand 4697-4718 ft, showed considerable saturation, set 5 in liner, swabbed sw, recemented, tested sw, temp abd 4724 ft.

EDWARDS COUNTY—Plateau O&G Co.'s Mrs. R. L. Hatch 1, J. W. May sur, sec 66, HE&WT RR. sur, td 1302 ft, sd 1242 ft on account of high water.

FRIO COUNTY — Thorton Davis et al's Halff & Oppenheimer 1, John D. Clare sur 336, 1 mi w Pearsall production, td 5435 ft, pulled tubg, bailed, 2500 ft sw in hole, ran plug to 5335 ft, tested and showed no leaks, ba ling.

GOLIAD COUNTY—The California Co.'s Landgrebe 1, 100-ac tr in John Hancock sur, 8 mi n Goliad, td 5052 ft, set 7 in cas 4795 ft, pb 4859 ft, tested sw, 4844-59 ft, pb to perf in sand 4800-07 ft. Felmont Corp.'s Mrs. W. O. Maetza 1, 1866-ac tr, Gertrude Baerrara sur, 6 mi ne of Goliad, td 5660 ft, lost 4 joints ds in btm hole, pb, fsg for 4 joints inside cas, will perf to test gas sand 3600-3800 ft.

GONZALES COUNTY—M. S. Holliday et al's T. G. Edwards 1, in Cheapsides area, 950 vrs wl, 900 vrs nl of W. W. Pace 1/3rd league, of 150 ft sl and sw of blk A, Holliday subd, 3 mi sw of Cheapsides, reinstated, contract let to H. L. Bedwell, will move in rig.

GUADALUPE COUNTY—Pat Armstrong's M. Tiller 1, 10-ac tr, J. C. King sur, 2 mi ne Kingsburg, dr 1742 ft Taylor. J. E. Clark's E. W. Williams 1, Green Dewitt sur 13, td 2622 ft, fsg for tubg, still sd for high water. Chas. Culver et al's Wm. Vorpahl 1, Geo. W. Edwards sur 56, 4 mi se New Berlin, dr 120 ft. Eickenroht & Gallagher's O. H. Johns 1, 840-ac tr, Green DeWitt sur, 5 mi sw South Darst Creek, td 3204 ft, td in Georgetown, set 6⅝ in cast at 2700 ft, top ch 2920 ft, top Eagleford 5081 ft, top Buda 3122 ft, top Del Rio 3184 ft top Georgetown 3200 (?) ft, swabbing 100 ft off btm, sd, woo. W. C. Campbell et al's (F. N. Gallagher) Katie Lay 1, on 20-ac lse, J. K. Davis sur, 800 ft e Stagal & Ramone crevice wells, td 2393 ft, top ch 2381 ft, cored in 12 ft, show saturation, prep set cas. Long & Ross' Ed Feliz 1, 1½ mi s fr New Berlin, 75-ac, V. Duran sur dr in sh 410 ft. Riddle Oil Co.'s E. Nolte et al, J. Sowell sur, 6 mi e Seguin, 6⅝ in cas 1780 ft, td 1845 ft, ch, swabbed down to 1400 ft, small oil show, pulled cas in two at 1410 ft, sidetracked, sdtr td 1747 ft, 6⅝ in cas collapsed, pulled out pipe, lost 400 ft ru to pump. V. G. Schimmel's Heaner heirs 1, 450 ft s of nl, 190 ft w of el of lse, Green DeWitt sur, ru.

HIDALGO COUNTY — Maxwell-Mundy-Morris' Southland Dev. Co. (Hidalgo County Water Control & Impr. Dist.) 2, lot 1, blk 20, Alamo Land & Sugar Co. sur, Alamo gr, 4 mi s Alamo, td 731 ft, pb tp 650 ft, perf 638-642 ft, sb td pumping 679 ft, making slight show of oil 640-45 ft, drop until work goes on. Pantana Pet. Corp.'s (McCluum Exploration Co.) R. W. Harding 1, 850 ft w of old Quintana Engleman 1, in lot 11, blk 94 in Mestinas gr, Missouri-Texas Land & Irrigation subd, coring 7490 ft. H. J. Porter et al's Sweeny Est 1, lot 1, Waynes Wood subd 1, 6 mi sw of Donna sp in, set 350 ft sur pipe, dr ahead 650 ft. Union Sulphur Co.'s ARGL&L Co. 10, blk 50, tr 2418, N. Capisallo dist, coring in shale 8240 ft.

JACKSON COUNTY — Steinberger Pet. Corp.'s S. G. Drushell 1, 466 ft nl and el of tr, lot 6, Gale subd of Hayes Ranch in N. Rodriguez sur, se edge of Edna gas field, td 7180 ft lost bit and reamer in btm hole, fsg, will be carried to 7200 ft, if no production is found, will pb to 7136-44 ft where saturated sand found.

JIM HOGG COUNTY—Eastland Oil Co.'s E. Vela heirs 1, blk 5, Clark & Cowden subd, sur 572, sh 1, El Peyote gr, lcn. J. H. Meek Jr.'s Martinez Est. 2, sur 623, coring at 3000 ft for 3010 ft sand from which first well producing, hard sandy shale 2283-2901 ft, soft dry sand 2901-07 ft. Pan-Ultimo Oil Co.'s (Theo Hicks et al) Kohler 1, blk 9 Noriacitas gr, 3 mi nw Hebbronville, sd 2435 ft. Sam Payne's R. Holbein 1, blk 10, Hogg Ridge subd, sh 3, Las Animas gr, ru, drop. Locke Purnell & Gifford Oil Co.'s Gallagher 1-A, blk 128, Pippin subd, Randado gr, coring 3000 ft Cole sand 2158-78 ft, sw sand 2953-39 ft; C. O. Gallagher 1-B, 40-ac tr Randado gr, blk 190, Pippin subd, lcn.

JIM WELLS COUNTY — Camp Drilling Co.'s Jane Schallert 1, 1134-83-ac tr, sh 3-A, Las Presenos de Abajo gr, 2½ mi w Bentonville field, gas sand 3077-84 ft td 5057 ft, dst 5036-42 ft, show 475 pounds, 6 min, coring ahead. Tom Graham's (Gist & Graddy) F. Bennett 1, lot 87, sec 76, Holdeman subd, 2 mi w Premont field, td 2350 ft, cored sand 2340-48 ft, dst 2340-48 ft, blow of gas 140 ft, dr mud cut with oil cored to 2350 ft, still in sand, dst 2340-50 ft, showed 5 thribbles (300 ft) 22.6 grav oil, 3 thribbles fresh water, 1 joint fine sand, 15 min, ¼ and ⅜ ch, sd to clear titles, will not dr plugs for several days; James P. Luby Estate 1, sh 4, Los Presenos de Abajo gr, 1 mi w Bentonville townsite, coring 3171 ft. Edwin M. Jones' Almond 1, n½ of HT&B sur 7, ab 232, ru. La Jita Corp.'s Hayden et al 1 ne/2 of sec 19, Richard King Farm lots, ru, drop until work begins. Putnam et al's Canales Est. 1, center blk 32, Mosser subd of Canales Est. coring brown sand and shale at 2680 ft, with no odor, hard rock 2672-77 ft.

KARNES COUNTY — Luling O&G Co.'s Wheeler Holmes 1, 100-ac tr, Carlos Martinez sur, 2 mi s Green, still sd 60 ft, clearing titles.

KERR COUNTY—S. W. Forester's J. W. Bailey 1 A. L. Starkey sur 403, 3 mi n Ingram, Tex., lcn.

KIMBLE COUNTY — Wilcox O&G Co.'s High Spiller 1, sec 15, Brooks & Burleson sur, dr in lime 2001 ft.

KLEBERG COUNTY—Clark et al's Kivlin 2, Fernando Creek, blk 8, sec 39, KT&I subd, td 2143 ft, 7 in cas 2124 ft, sand 2124-34 ft, tested sw, slight oil show sd orders.

LA SALLE COUNTY—Kennedy & Johnston's Gilmer & Wildenthal 1, 300 ft nel and nwl of 140-ac tr in sur 283, 8 mi se of Cotulla, reinstated, dk. W. H. Vernor's M. G. Jeffries 1, sec 726, HE&WT RR sur, sd 150 ft.

LEE COUNTY—James E. Pederson's C. A. Turner 1, 65-ac, David Hudson sur, 1½ mi se Tanglewood, td 6560 ft, hole survey 375 ft off vertical at 6150 ft.

LIVE OAK COUNTY—Dirks Bros.' Atkinson 1 350-ac tr, L. Ayers sur, in nw cor of county, sd by mud 1056 ft. J. H. Durbin's Marbach 4, 429-ac tr, Stephen Hays sur, 2½ mi sw of Whitsee, td 902 ft, sand 897-900 ft, setting cas. R. H. Feltner et al's Sanger Ranch 1, w½ of GC&SF sur 391, moving in gasoline rig. O. W. Killam's Schultz Live Stock Co. 1, dr 2050 ft. Loma Oil Co.'s Palmer 2, in T. B. Sparks sur. 4 mi sw of Whitsett, dr 400 ft. Maryland Oil Corp.'s Geo. West Est. 1, w cor lot 709, Fernandez & Vasquez surveys, 5 mi sw Geo. West townsite on blk secured fr Whisenant & Trenchard, ru.

MAVERICK COUNTY — J. N. Boicourt's Edson & Estrada 1, 442.80 vrs (1230 ft) el, 402.20 vrs (1120 ft) nl, James Eaves sur 68, dr in Taylor sh at 510 ft. Rio Development Co.'s Winchester Kelso 1, 297-ac tr in sur 2, 3 mi n fr Eagle Pass, td 660 ft, set 6 in cas on btm, woc. Thorton & Underwood's Thompson heirs 1, Uvalde County School Land sur 2, 6 mi n of Eagle Pass, reinstated, sp and sd 40 ft, drop.

McMULLEN COUNTY — Dan Culver et al's Wm. Fahler 3, in Geo. Pittuck sur, dr 515 ft. Darby Pet. Corp.'s E. R. Hagist 1-A, se/4 of sec 13, K&TC sur 13, 4 mi nw Loma Alto, abd 2520 ft. Hagan Stewart Oil Co.'s J. J. Kunz 1, 350-ac tr in Hely sur, dr 802 ft, gas sand 720 ft. Hill et al's J. Richardson Est. 1-A, stdg 2775 ft. E. M. Jenkins & Floyd's Raymond Ploscyzk 1, blk 1, James Garner sur td 1145 ft, will perf 1140 ft. Magnolia Pet. Co.'s Mary Teal 1, Wm. Kuykendall sur 4, 4 mi sw Crowther, abd 4059 ft. Fred Nute et al's W. H. Fahler 1, 1500 ft nl, 700 ft wl 100-ac farm in Geo. Pittuck sur, 4½ mi w Calliham, moving in, dr water well. Reynolds & Richardson's Shiner Est. 1, 330 ft el, 375 ft sl of 4300-ac tr in sur 23 sec 83, mim. Ike Taylor's H. L. Lark 1, lot 72, Lark subd, E. W. B. Scrugham sur, between Jacob & Calliham fields, td 600 ft, well blew out, sprayed gas, ran wild, pumped in heavy mud after blow out and temp. d, dr relief well, drop; W. S. Red 1, nw cor Geo. Pittuck sur, still sd.

MEDINA COUNTY—H. N. Whitting et al's

Honde Nat'l Farm Loan Assn'n 1 24-ac tr, sec 214, 5 ½mi se Honde, sd 671 ft, top serp 505 ft, oil show 662-671 ft, cored Buda 1365-69 ft, cored Del Rio 1399-1408 ft, abd 1505 ft.

NUECES COUNTY — Barnsdall Oil Co.'s Weil 1, lot 5, McBride Partition between Saxet and Corpus Christi fields, reaming 4503 ft. Bunte O&G and Woodley Pet. Co.'s Margaret Kelley 1, sec 4, Range 7, H. L. Kinney sur 4 mi se Clarkwood, td 4866 ft, running electrical formation test at about 4866 ft. J. T. Cox' John Harney 1, sh 11, Harney lands, 2½ mi se Callihan, sd 4279 ft, drop. Gem Oil Co.'s J. T. Smith 1, in center of lot 22, blk 47 abt ¾ mi n of disc well, td 6658 ft, flow 6 bph, ⅛ in ch, tp 600 lbs, cp 800 lbs, sand 6648-58 ft. W. L. Hinds' Clara Driscoll Sevier 1, 40-ac tr of sec 112, J. A. Cabosos sur, Bishop subd of Driscoll Ranch, 2 mi s Driscoll townsite ru. W. A. R. Oil Co.'s Mrs. Bertha Buckholt 1, 258.9-ac tr, sh 4, Buckholt partition, Ward sur 3.6, 1 mi se Clarkwood, td 4585 ft, dst 4563-70 ft, rec 300 ft oil, 30 pounds pressure, prep set cas, sand 4570-74 ft cas set on btm.

REFUGIO COUNTY—Tide Water Oil Co.'s E. G. Landgraf 1, 466 ft nl and el of 220-ac tr in J. Collyer sur, n of Hynes Bay, reinstated, bldg dk and ru.

SAN PATRICIO COUNTY—Callaway-Crosby & Porter's White Point Dev. Co. 1, 438-ac tr Seguin sur 4 and 5, ab 247, sand 4900-15 ft, dst 4899-4915 ft, rec 510 ft oil, 37 lbs pres, 5 min, flowed several hrs through ¼ and ⅜ in ch, made 20 percent oil, balance wash water, killed to deepen, saturated sand 4900-43 ft, dry sand 4943-53 ft, ran electric formation test, good kick 4901-36 ft, dr ahead to contract, will pb and comp if deeper sands do not produce, dr 5900 ft. Eleanor Oil Co.'s Wm. Kline 1, lot 5 blk "E", Coleman-Fulton Pasture Co. subd, 2½ mi se of Gregory, closed well, setting csg at abt 6500 ft. Plymouth Oil Co.'s E. H. Welder 2-D, sec 4, Welder Ranch subd, 2½ mi nw Sinton field, 5535-41 ft, set 5⅞ in cas, dr plugs 6500 ft, perf 5912-18 ft for test abd 6500 ft. Trinity Drillers' W. C. Mayfield 1, lot 11, Roos subd, 2 mi n of White Point, gas field, abd 6010 ft.

STARR COUNTY—Sam Adam's Garza 1, Military Reservation, sh 20A, porc 80, J. of Reynosa, 5200 ft sw Rio Grande City field, dr below 451 ft. J. F. Anderson's Yzaguirre 1 139-ac tr, porc 79, coring 2700 ft corrected depth. Howard Bass' Hayden et al 1, s/2 blk 4, sur 47, porc 80. sp. Bennett & Lowe's A. Guerra 1-A, sur 293, 4 mi se Cuevitas field, dr 2018 ft. Davenport's Kelsey-Bass 1, Davenport subd of n 585-ac of porc 86 and 87 Camargo Juris, 4500 ft ne and slightly Larkins & Warr's Kelsey-Bass 1, 2 mi w Barbacoas field, td 3861 ft, sand with oil odor 3823-27 ft, dst showing small amount oily mud, coring ahead, enc soft dry sand 3861 ft. F. Davenport & Slick Urschel's T. B. Slick Est. 1, el of sec 485, coring, soft dry sand 3856 ft. A. A. Kelley's Higinio Gonzales 1, 100-ac lse sh 67, porc 71, Juris of Mier, td 500 ft, made dry gas and no oil show on 1 hr dst of sand 430-499½ ft, sd at 356 ft, woo. J. W. Richards et al's Ysidro Garcia 1, sh 7B, porc 71, Ancient Juris of Mier, 13 mi n Roma, lcn. South Coast Oil Corp.'s Isabel S. Lopez 1 771 ft nl, 282 ft wl lot 11, sh 29B, porc 80, 10 mi n Rio Grande City, lcn for 3500 ft test.

TRAVIS COUNTY—W. B. Bottinfield et al's P. C. Wells Est. 1, J. Harper & J. B. Keurk sur, dr 800 ft in sh. Doray & Lefors' Pfluger 1, J. Davis sur, set 6⅝ in cas 684 ft, td 735 ft in Edwards.

VICTORIA COUNTY—Plymouth Oil Co.'s J. J. Welder 1, lot 11, 371.9-ac tr S. Belding sur, ab 141 ft, 7 mi e of Nursery, sand 5719-27 ft, reaming 5842 ft; R. H. Welder 1, 2332 ft wl, 3265 ft sl of 6371.9-ac lse FH&MG RR sur 15, 9 mi n Nursery, near DeWitt County line, ru and sp.

WEBB COUNTY—R. S. Bolling's Ft. Worth Nat'l Bank, tr 1, blk 4, sur 466, 2½ mi n Mirando City, dry abd 2007 ft. Ivan Howard et al's Frost Nat'l Bank, n½ sur 733, dr 1063 ft. Lu-Tex Oil Co.'s Lone Starr Const. Co. 9, porc 12, 13 mi nw of Laredo, sd 2300 ft. Mid-Continent Pet. Corp. and Oklahoma Co. of Tex. Inc.'s E. T. Lubacher 1, nw/4 of sec 1394, sd 1978 ft. Sackett & Keoughan's Wilmot Est. 1, sw/4 nw/4 of w 640-ac sur 201, ru. Superior Oil Co.'s J. H. Kirkpatrick 1, sur 18, 1 mi s Leaseholders, 3 mi nw Lopez stdg.

WILLIAMSON COUNTY—H. F. Goff's H. W. Kunza 1, 660 ft wl, 325 ft nl of 75-ac in J. Justo Liendo sur, lcn. Fred Hughes' M. A. Backmeyer 2, C. C. Browning sur, still sd 1600 ft.

ZAPATA COUNTY—Gilcrease Oil Co.'s Antonio Trevine et al 1, blk 5, sec 3, Mode subd, porc 2 and 3, 17 mi w Comitas field, dr 1105 ft. Hill & Hill's O. S. Alexander 1, porc 25 td 2610 ft, ran electric formation test, will dr to 3100 ft, showed 2 ft gas sand at 2125 ft. The Texas Co.'s J. D. Jennings (Whitehead) 93, Cerrito Blanco gr 15, 941.6-ac tr, 1 mi fr Escobas production, dr 1845 ft.

## TEXAS GULF COAST

BRAZORIA COUNTY—Gulf's Wilkes Smith 2, Lochridge prospect, J. W. Hall sur, dr shale 4430 ft.

BURLESON COUNTY—M. R. Exploration Co.'s Fontaine 2, 1300 ft n of No. 1, Wm. Raleigh sur, sd 2746 ft. Red Bank Oil Co.'s Neely Grann 1, Chriesman area, E. Sante sur, dr chalk 5084 ft.

CHAMBERS COUNTY—Sun's Acom 1, Seabreeze prospect, T&NO sur, sec 128, dr shale 1688 ft; same operator's White Estate 2, Seabreeze prospect, T&NO sur, sec 128, dr shale 4239 ft.

COLORADO COUNTY—Sterling's South 1, Garwood area, I&GN sur, sec 41, sdtr 5940 ft.

GRIMES COUNTY—Crooke Brothers' Greer 1, near Carlos, P. B. Connor sur, dr shale 3358 ft.

HARDIN COUNTY—Republic Production Co.'s Brooks 2, relief well, Silsbee prospect, J. W. Brooks sur, pumping mud into Brooks 1 at 7042 ft.

HARRIS COUNTY—Bunte Oil & Gas Co.'s Graves 1, Bammel prospect, C. Walters sur, dr shale 3155 ft. D. B. Cherry et al's Dodger 1, Epsom Downs area, J. T. Harrell sur, dr shale 988 ft. Stanolind's Angello Candelari 1, Reels & Trobough prospect, Reels & Trobough sur, dr shale 5896 ft.

LIBERTY COUNTY—J. C. Mayo's Moore 1, Rumayor prospect, J. F. De Rumayor sur, dr shale 4309 ft.

JEFFERSON COUNTY—Sun's Broussard 2, Labelle prospect, W. B. Burton sur, lcn.

MATAGORDA COUNTY — Continental's Robbings 2, Citrus Grove prospect, C. Franz sur, roads. Hammond Exploration Co.'s Croker 1, South Bay City field, E. Hall sur, dk. Sun's Craig 2, Hawkinsville area, T. Williams sur, dr rock 689 ft. Tetts & Harris's Pierce Estate 1, Blessing prospect, J. W. E. Wallace sur, coring shale 4621 ft.

MONTGOMERY COUNTY—W. W. Chapman's Thomas Foster 1, Willis area, D. Pevehouse sur, ru.

POLK COUNTY—Peyton Brother's McDonnald 1, w of Ace, T. J. Menard sur, dr gumbo 1995 ft.

WALKER COUNTY—G. C. Gossage et al's Carey Land & Dev. Co. 1, 3 mi e of Dodge, Dan J. McDaniel sur, lcn.

WASHINGTON COUNTY—Carl Dyer et al's Thomas 1, n of Brenham field, H. Hensley sur, sd 2657 ft. Sun's Lauter 1, Clay Creek area, N. Clay sur, circulating 7471 ft.

WHARTON COUNTY — Texas Crusader's Fee 1, Magnet area, Smith & McKenzie sur, sd high water 5562 ft. R. B. Watson's Thomas (Sweet) 1, Magnet area, Smith & McKenzie sur, sd high water. Felmont's General Mitchell 1, Spanish Camp prospect, D. Wade sur, sd 6013 ft, high water. Pure's Duffey 1, Blue Basin prospect, E. T. R. R. sur, sec 107, abn 6475 ft; same operator's National Bank of Topeka, W. F. York sur, dr shale 5598 ft. Texas Crusader's Hawes & Nelson 1, nw of Lane City, S. Castleman sur, sd high water 975 ft.

## UTAH

EMERY COUNTY—California Co.'s Unit 1, sw 22-23s-11e, dr 2593 ft.

GRAND COUNTY—Columbia Crude Corporation's Rath-Government 1, ne sw ne 12-25s-20e, sd 1610 ft, preparing to run cas. Utah Southern Oil Co.'s Hyde-Government 1, s nw nw 32-22s-2e, dr 5286 ft.

## WYOMING

ALBANY COUNTY—Hal Blakeman's Chappel 1, cne nw 33-21n-76e, dr 1526 ft. James Lake Oil Co.'s George & Hunt 1, nw ne se 5-17n-75w, dr 4451 ft. Ohio Oil Co.'s Elisabeth Stiles 1, southwest corner 12-15n-75w, pb from 2900 to 2860 ft, to test in Satanka shale.

CARBON COUNTY — General Petroleum Corporation's Union Pacific 1, sw sw sw 5-19s-83w, dr 4456 ft after co fsg job at 3812 ft. Medicine Bow Oil Co.'s Hintze-Government 1, cne se 18-22n-78w, dr 4451 ft. Wyoming Oil Co.'s Salisbury 1, northwest corner nw se 27-32n-69w, spd.

GOSHEN COUNTY—Ohio Oil Co.'s Joseph A. Waggoner 1, cne ne 14-28n-63w, mim.

HOT SPRINGS COUNTY—Empire State Oil Co.'s Larson 1, ne se nw 32-44n-93w, dr 1535 t.

LARAMIE COUNTY—Amerada Petroleum Corporation's Morton 1, csw sw 13-13n-68w, dr 4463 ft.

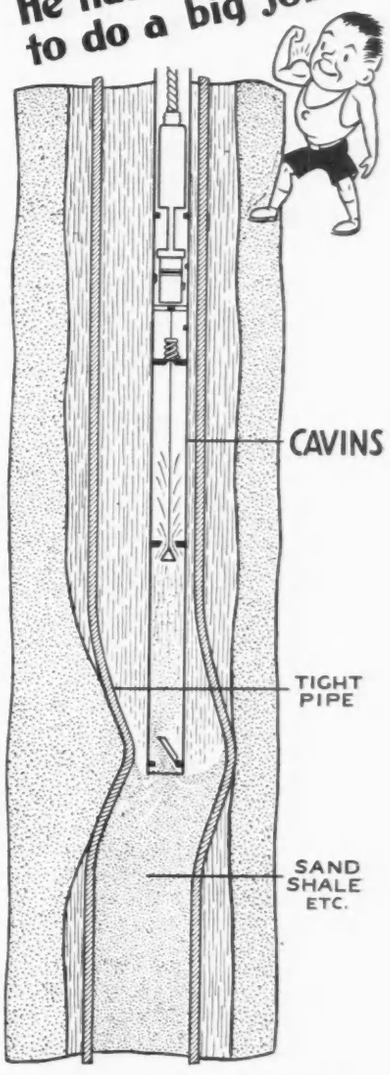
NIOBRARA COUNTY — Adams-Louisiana Co.'s A. L. Spaugh 1, cnw ne 18-35n-65w, rur. Lewis Gokel's 1, sw ne 31-34n-62w, dr 958 ft.

PARK COUNTY—General Petroleum Corporation's Government 1, nw nw nw 33-47n-100w, rur.

PLATTE COUNTY—Dividend Oil & Ref. Co.'s 1, s nw sw 17-24-66w, dr 441 ft.

WESTON COUNTY—John Brorby's Lemke 1, se ne 16-35n-65w, dr 630 ft. Conway Oil Co.'s Government 1, se se nw 7-41n-60w, trying to get tools to bottom at 2700 ft.


"He may be a Little Fellow, But... He has the muscle to do a big job!"




If you are confronted with having to clean out pipe below a tight place in order to swag out, re-open, or abandon perforations, you will be time and money ahead to call for a CAVINS AUTOMATIC HYDRAULIC SUCTION BAILER.

A small sized CAVINS (see illustration) will slip through the tight spot and do a big sized clean-out job for you in short order.

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# NEW PRODUCTS FOR THE FIELD
## Machinery • Tools • Catalogs • Books

### BOILER GAUGE COCK
**Well Equipment Company, Inc.**

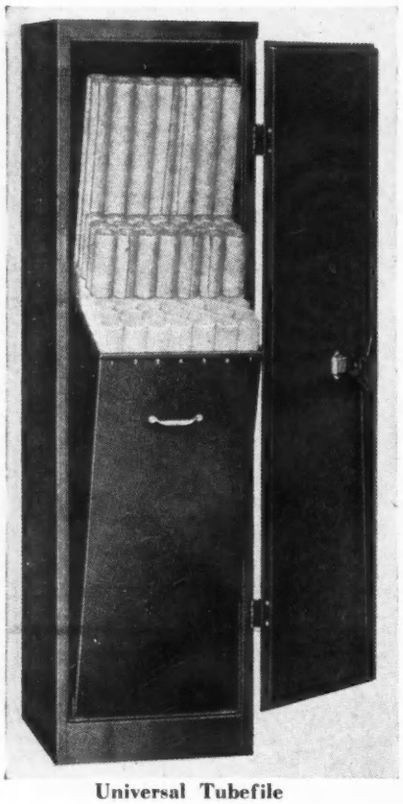
The Weco safety boiler gauge cock recently placed on the market by Well Equipment Company, Inc., Houston, has a replaceable lead disc that can be changed without removing the gauge cock from the boiler. The disc is 2⅛ inches in diameter with a ⅝-inch face. The handle is made from malleable steel to prevent breaking.

**Weco Boiler Gauge Cock**

A thumb screw on the outside of the handle makes it possible to change position of the lead seat instantly. All parts are replaceable and interchangeable. One feature of the tool is the safety precautions taken to prevent burning of the fireman. When the handle is raised the steam goes downward and hits a guard that is a part of the handle.

### MAP AND TRACING FILE
**Metal Office Furniture Company**

J. A. Gerson, Gulf Coast representative for Metal Office Furniture Company, 304 West Building, Houston, is introducing the company's metal cabinets for filing drawings, maps and large tracings. The units are known as Tubefiles and are actually rigid steel bins installed in standard Terrell steel cabinets, set on hinges so that they will tilt forward for easy access.



**Universal Tubefile**

The cabinets come complete with tubes for filing. The tubes are made of durable, smooth fiber and the tracings are rolled up and inserted. They are filed according to a simple system of coordinates, which never leaves any question as to where a drawing is, because there is only one tube in which it can be. Tracings much larger than the 36-inch square can be filed, as there is ample clear space above the tube unit in the cabinet.

Cabinets are furnished with trouble-free locking devices, keys, handsome nickle handles and strong hinges. Several styles and sizes of cabinets are available with capacities up to 153 tubes.

### GATE VALVE
**The Ohio Injector Company**

The Ohio Injector Company, Wadsworth, Ohio, has announced the "O. I. C." Figure 97 standard solid wedge slip-on disc type gate valve with rising stem, recommended for steam, water, oil and gas. It is made of an exceptionally heavy high grade of bronze and the stem is of manganese bronze. Provided with ample space for packing and can be packed while under full pressure. It is also equipped with a packing gland. The valve has full length pipe threads and are full area. The hand wheel is malleable, non-heating design.

**O.I.C. Figure 97**

### COP-NIC TANKS
**Columbian Steel Tank Company**

Columbian Steel Tank Company, Kansas City, Missouri, has developed Cop-Nic bolted steel tanks for sour oil fields where chemicals attack ordinary steel tanks.

Briefly, the new Columbian Cop-Nic bolted steel tanks are made from the special Cop-Nic steel sheets which have not only a high copper bearing content but in addition nickel and other rust-resisting elements. A tighter, smoother coating of galvanizing is claimed because of these elements in the base metal.

A study of the edge of a Cop-Nic galvanized sheet shows that while the outer surface is pure zinc the under surface is really a zinc-iron alloy which progresses from pure zinc at the outside to pure iron on the inside.

The manufacturers claim that the surface of the Cop-Nic base metal is prepared for the special galvanizing process with a uniform etching—thus it is not necessary to depend on accidental variations in the sheet surface which produces thick and thin spots in the coating.

### ELECTRIC LANTERN
**Economy Electric Lantern Company**

Economy Electric Lantern Company, Chicago, Illinois, announces a new electric lantern especially designed for oil field use. The new Ecolite is strictly a safety light and is approved by the Underwriters' Laboratories as safe in the presence of flammable gases and vapors. The exclusive Ecolite feature of body, handle and base being mounted on a pivot enables the operator to concentrate the light on any desired object, thus leaving both hands free for his work. The lantern was designed particularly to meet the requirements of gaugers, pumpers and pipe line men. The new Ecolite, known as No. 50-S, uses Mazda No. 27 lamp bulb and the standard 6 volt lantern battery.

**New Ecolite Lantern**

### ELECTRIC MOTOR
**General Electric Company**

General Electric Company, Schenectady, New York, has announced a new design of riveted-frame squirrel-cage polyphase induction motors, in frame sizes of from one to 15 horsepower at 1800 rpm. The new motors, available in a variety of electrical and mechanical modifications, incorporate improvements in stator-coil insulation, frame construction, and other design features.

Co-ordination of design permits the different modifications of motors in the line to be used interchangeably for many types of power supplies and for various applications requiring open, sleeve- or ball-bearing, enclosed, enclosed fan-cooled, splashproof, vertical motors, etc. As a

result of this adaptability, many special requirements may be met with the standard available line.

A new insulation system "built from the inside out" is employed for the stator-coil windings, which are of the random-wound type, with joints at the connections fused instead of soldered. Recently developed insulating materials and processes are utilized, eliminating the need for taping the end windings and producing an insulation assembly with high resistance to moisture and other common deleterious influences, such as mild acids, alkalis, oil, and abrasion.

A new riveted-frame construction and new end frames made of malleable iron, with integrally cast feet, contribute to the strength and rigidity of the motors, providing increased resistance to vibrating and shock loads. Cast-iron end shields of ample strength maintain accurate bearing alignment and uniform air gap.

Convenience features include: two-part conduit boxes that provide ready access to leads and can be mounted in any one of four positions; handy knock-off ledges on end shields, permitting easy disassembly with ordinary tools; adequate wrench room for removing end-shield cap screws; ball bearings provided with pressure grease fitting and relief plug; sleeve bearings equipped with oil-filler gauge that can be placed on either side of housing; and general simplicity and accessibility of all parts.

## This Week with the Industry's EQUIPMENT SUPPLIERS

### New Cutler-Hammer Plant At San Francisco

Cutler-Hammer, Inc., pioneer manufacturers of electric control apparatus, Milwaukee, Wisconsin, has enlarged its manufacturing facilities on the West Coast. A new plant, at 970 Folsom Street, San Francisco, California, began operation this month. Other factories are located in New York City and Milwaukee.

Special control constructions, dead front switchboards, fuse cabinets and panelettes, panel boards, transformer cabinets and wiring troughs are being manufactured under the direction of R. R. Crooke, who has had over 30 years experience in the production of this type of equipment.

Completely equipped with new machinery, this is the most modern switchboard plant on the West Coast, according to F. H. Oberschmidt, manager of Cutler-Hammer's Pacific Coast District.

### Axelson Pump Operates 12 Years

An interesting story on the service of an Axelson pump was recently received by Axelson Manufacturing Company, Los Angeles.

On February 6, 1924, Colorado Oil Company installed a 2-inch (1¾") x 6-foot Axelson OC Regular Tubing Sectional Liner Pump. It was pulled on July 6 of this year after a run of 12 years, 5 months and 26 days.

Pumping at 13 strokes per minute with a 20-inch stroke, the total number of strokes was 65,202,440. The plunger traveled 284,008,133.32 feet or 53,789.42 miles. Total days of pumping was 4542 with a down time of 10 days in this period.

During this long run, five oversize plungers were used, each averaging more than two years. The pump lifted 13,626 barrels of oil in this time.

### The Lane-Wells Company Opens Corpus Christi Branch

The Lane-Wells Company of Texas has announced the opening of a branch office and service depot at Corpus Christi to serve Southwest Texas and the Rio Grande Valley. The company will operate three gun perforating trucks, and four crews out of the new branch and will give full field service. The office is located at 801 Port Avenue, Corpus Christi, and George E. Thompson has been named local manager. Headquarters for the company are located at Houston, under the direction of Elmer Smith.

EVERETT CHAPMAN

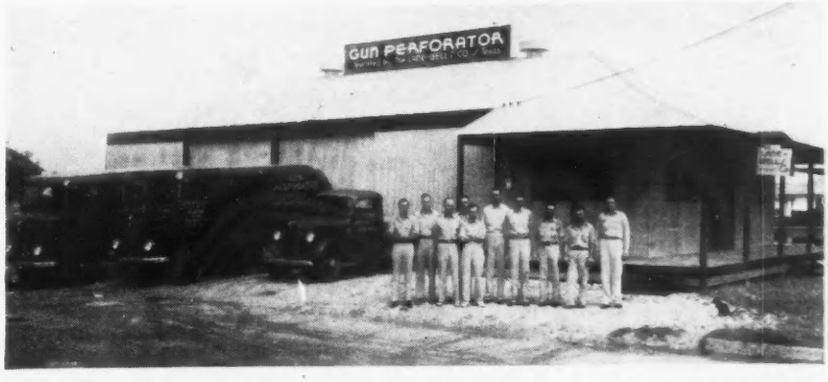
### Lukenweld Elects New President And Vice President

Everett Chapman, who has been vice president of Lukenweld, Inc., Coatesville, Pennsylvania, has been elected president of the company, according to an announcement by Robert W. Wolcott, president of Lukens Steel Company, of which the Lukenweld organization is a division. Chapman succeeds G. Donald Spackman, who was recently promoted to general superintendent of Lukens Steel Company.

Robert J. Whiting, who has been superintendent of Lukenweld, Inc., in charge of all manufacturing, has been elected vice president of Lukenweld, Inc.

ROBERT J. WHITING

Chapman was born in Detroit on May 9, 1901. In 1925, Chapman joined Lincoln Electric Company, Cleveland, as experimental engineer. In 1930, Chapman joined Lukenweld as director of development and research, and was elected vice president of the company early in 1934, in which capacity he served until he was elected president. Robert J. Whiting, vice president of Lukenweld, was born in 1885 at Foster, Pennsylvania. His first work was with Keller Manufacturing Company, Scran-




New Corpus Christi branch of The Lane-Wells Company of Texas.

ton vehicle manufacturers, which he joined in 1906.

In 1909, Whiting entered the employ of Pickering Engineering Company, Hartford, Conn., where he remained for four years, engaged principally in problems of structural design concerned with power plant equipment.

In 1913, Whiting became master mechanic on plant equipment for Ford Motor Company, Detroit, Michigan, later being promoted to superintendent of body construction at the Ford plant.

In 1923, Whiting became production engineer for Fisher Body Corporation and supervised the erection of body plants and equipment at many points throughout the country.

In May, 1934, Whiting resigned from Fisher Body Corporation, and joined Lukenweld, Inc., as superintendent, which position he held until elected vice president of the organization. Whiting will continue in charge of all phases of manufacture at Lukenweld, Inc.

## American Locomotive Makes Executive Changes

Due to ill health, Joseph Davis has resigned as executive vice president of American Locomotive Company, and as president, director and member of the executive committee of Alco Products Incorporated, a division of American Locomotive Company.

R. B. McColl has been appointed director, member of the executive committee and president of Alco Products Incorporated to succeed Davis, and David Basso has been appointed vice president of the Diesel Engine Division of American Locomotive Company, a position previously held by McColl.

McColl was born at Kilmarnock, Scotland in 1882. After serving a special apprenticeship and working in various departments on the Glasgow & Southwestern, he was employed by Robert Stephenson & Sons, locomotive builders, Darlington, England. In 1905, he went to Montreal Locomotive Works, Montreal, Canada, where he advanced to assistant superintendent, superintendent of works and finally to works manager. In 1917, he was appointed manager of the munitions department of Eddystone Munition Company. After the war, he returned to England as general manager of Armstrong Witworth Company's locomotive department, from which position he advanced rapidly to others of wider responsibility. In January, 1922, he became attached to the New York office of American Locomotive Company. In June, 1923, he became assistant manager of the Schenectady plant, and in January, 1925, manager of the plant. In 1931, he was elected president and director of McIntosh & Seymour Corporation, Auburn, N. Y., a division of American Locomotive Company. When McIntosh & Seymour Corporation recently was merged with the parent organization, McColl was appointed vice president of the American Locomotive Company, Diesel Engine Division, which position he held at the time of his election as president of Alco Products, Incorporated.
corporated.

David Dasso, the new vice president of American Locomotive Company, Diesel Engine Division, was born in Lima, Peru. After graduating from the Massachusetts Institute of Technology in 1912, he became manager of Vulcan Iron Works, at Lima, Peru. In the fall of 1932, Dasso was appointed Sulzer Brothers, Ltd., representative in New York, which position he held, with the exception of one year, 1935-36, when he was managing director of Sulzer Brothers office in Buenos Aires, until his election to vice president of American Locomotive Company, Diesel Engine Division.

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## Goetze Gasket Expands Its Manufacturing Plant

Goetze Gasket & Packing Company, Inc., of New Brunswick, N. J., has just completed another addition to its plant which was originally located on the present site in 1911. This is the fourth addition which has been necessary since 1928 to keep abreast of a rapidly expanding volume of business.

Former capacity has been practically doubled by this added space, and through the installation of new equipment including a number of machines of special design which were developed by its own engineers.

During the past few years considerable effort has been expended in the perfection of new gasket and packing materials to meet newer conditions. With the increased activity throughout industry improvements in manufacturing processes were also necessary to maintain production schedules.

Among the newer developments are a stuffing box packing of unusually wide adaptability and a sheet packing that contains no rubber or other ingredient affected by oil, gasoline or certain chemicals and is suitable for temperatures and pressures greatly exceeding those for which sheet packings have heretofore been recommended.

## Leeds & Northrup Open Boston Office

A New England office, staffed for consulting and sales engineering service to those having problems of instrumentation in manufacturing processes, laboratories, power plants or educational institutions, has been opened recently in Boston by Leeds & Northrup Company. The company's complete line of measuring, recording and controlling instruments, as well as electric heat-treating furnaces, will be handled through this office. The address is 422 Chamber of Commerce Building, 80 Federal Street, Boston, Mass.

**Boilers**
The Broderick Company, Muncie, Indiana, recently issued Bulletin No. 3605, describing the venturi stacks for all boilers.

**Diesel Engines**
Busch-Sulzer Brothers, St. Louis, has available an attractive folder describing the Diesel engines it manufactures.

**Rotary Hooks**
The National Supply Company, Toledo, Ohio, has ready for distribution bulletin No. 113, describing its Ideal rotary hooks.

**Draw Works**
The National Supply Company, Toledo, Ohio, recently issued bulletin No. 116 describing its Ideal draw works.

**Thread Cutting Machinery**
Landis Machine Company, Waynesboro, Pennsylvania, has ready for distribution an interesting "Operator's Instruction Book" which covers the use of Landis heat-treated die heads.

**Feed Water Control**
Northern Equipment Company, Erie, Pa., has ready for distribution bulletin No. 401, which is an interesting article on "Controlling Boiler Water Levels on Rapidly Fluctuating loads with Copes Double Control Regulator."

**Rotary Equipment**
Brauer Machine and Supply Company, Oklahoma City, has recently issued catalog No. 36 describing in detail the Brauer complete line of rotary drilling equipment including the company's improved manifold valve and portable bucking-on machine. All items are fully illustrated.

# Squeaks from the Bull Wheel

### Safe to Leave

"Yes, Edward, I am going to be out of town for a week visiting my mother," said the trusting wife. "But I do not intend to instruct you how to behave during my absence. I feel certain that this time I can trust you, Edward. I know that you will be faithful and temperate while I am gone. When I return there will be no beer stains on the wallpaper, no poker chips under the piano, no signs whatever that you have been entertaining your friends in the house."

She started to leave but remembered something else and stopped.

"Oh, yes, darling," she said, "the doctor says the injuries you suffered in that automobile wreck are only external. So don't worry and you'll probably be out of the plaster casts and ready to leave the hospital by the time I get back."

### Not Bothered

An operator in oil, who had made a great deal of money, was telling an acquaintance of his early trials with dry wells, and how at one time he sank his last available penny. "But was I downhearted or discouraged?" he inquired.

The acquaintance observed that in a similar situation he should have been decidedly depressed.

"I wasn't," said the financial genius. "I gritted my teeth and borrowed $50,000 from my brother."

### Facing Ruin

A big crowd had gathered around the lean, loud man on the soapbox.

"Worry," he was shouting. "Worry. My friends, you don't know what worry is yet. You think times have been hard, do you? Wait, my friends, just wait until they give us this five-day week of which they prattle. Then, ladies and gentlemen, we will have something about which to grieve. Who wants a five-day week, my friends? Do you want it? Do I want it? No! What will it mean? Ruination! Absolute ruination, my fellow men. Who——"

By this time a fellow in the crowd was beginning to get a little bit curious.

"Say," he asked the man next to him, "just who is that guy?"

"Who is he?" the man replied. "Don't tell me you haven't heard of Baralla, the world's champion six-day bicycle rider?"

### What to Do

"People know exactly what to do till the doctor comes nowadays."

"How do you mean?"

"They insist they were going 20 miles an hour and had the right-of-way."

### Considerate

"The Gloria night club has introduced a new feature that is proving a sensation."

"What is it?"

"They have a midget fan dancer for the benefit of patrons under the tables."

### Sure Delivery

"Here, Tommy," called Mrs. Jones to her neighbor's little boy, "run along and put this parcel on the bus."

"Which bus?"

"Any bus," replied Mrs. Jones. "It's me husband's lunch and he works in the lost property office."

### Qualified

"Just why," asked the man behind the desk, "do you think you're fitted for the job, Mr. Hull?"

The applicant leaned forward with an apologetic smile.

"Eh?" he said. "I'm slightly deaf, Mr. Vance."

"I said what are your qualifications?" Vance repeated in a lounder voice.

"Oh! Well, to tell the truth, Mr. Vance, I think that is beside the point. I can't make any claims about or guarantee anything so changeable as human ability. All I ask is—"

"I can't hire you," cut in Vance, "if you can't even say a good word about yourself."

"What was that, Mr. Vance?"

"I said do you know anything about this job?"

"Oh! Well, you must realize that I shouldn't apply for the position unless I felt qualified to fill it. I know a lot of men who had jobs like this and they never failed to give satisfaction."

"Do you expect me to pay you a salary if you insist upon dilly-dallying around like this?" demanded Vance heatedly—but there was a hopeful gleam in his eye.

"Certainly not," answered Hull politely, "but all I ask is a fair trial. Then if I prove unsatisfactory I shall cheerfully resign. At least you will try me out, won't you, Mr. Vance?"

Vance grunted, then smiled with satisfaction.

"You'll do," he said. "In fact, I think you'll make the best Complaint Manager this store has ever had!"

### Reasonable

"How come you write so slow, Mose?"

"I gotta, mah girl can't read very fast."

### No Envy

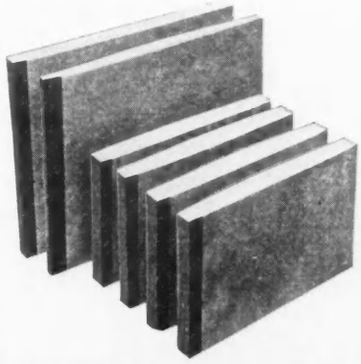
He was a good-natured Irishman, and was one of a number of men employed in erecting a new building. The owner of the building said to him one day:

"Pat, didn't you tell me that a brother of yours is a lawyer?"

"Yes, sor," replied Pat.

"And you a hod carrier! The good things of life are not equally divided, are they?"

"No, sor," said Pat. "Poor fellow—my brother couldn't do this to save his life."

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After carefully reviewing the forms of a number of oil companies, The Gulf Publishing Company has made up nine standard forms listed above and has produced these in such quantities as to enable oil companies to secure them at substantial savings.

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